

**The National Press Club
Washington, D.C.
April 9, 2003**

Ellen Wartella: Good afternoon. If you could take your seats, we'd appreciate it. Welcome to today's symposium on the media research gap, What we Do and Don't Know About Media's Impact on Children. I'm Ellen Wartella, and I am going to be moderating this afternoon's session. I want to give you a little bit of a heads up of how the afternoon will go over the next two hours. Senators Brownbeck and Leiberman who are intending to be here are in the Senate voting at the moment, and we are told they will either come together or come separately. At whatever point they arrive, we will stop whatever we are doing and give the Senator an opportunity to speak, either both of them together or separately.

The plans call for us to have a panel presentation. We have a huge panel that I will be very briefly introducing to you in a few minutes. Their much fuller biographies are in your packet of materials. After that, depending on when the senators get here, we will also then be able to take questions from the audience. Our goal is to wrap it up by 4:00.

So why don't I launch into an introduction of what we're doing and why we're here, and depending on whether the senators arrive, we'll either introduce them or go directly into the panel discussion. Again, thank you all very much for being here. I know many of you have come from across the country and we are flattered that you are here. As I said, I'm Ellen Wartella, one of the primary investigators with the Children's Digital Media Center, and Dean of the College of Communication at the University of Texas at Austin. I'd like to thank all of the people, and I'd like to do the thanks in advance for the people who helped put this together, and that's our staff. The staff usually waits until the very end, and you don't always hear about them, but I particularly want to thank Bonnie Strong and Kat Murray at Georgetown who were very helpful, and people on my staff, Erin Geisler and Allison Caplovitz, who have been very much involved in organizing this afternoon's session.

Why are we here, and what's the focus of today's workshop? Well, as many of you know, we have a relatively weak research base and an overwhelming amount of marketing hype on the power of these newer electronic interactive media to influence children's learning and development. Many find it ironic that despite the effects of television, video games, and interactive entertainment products on children having been a topic of ongoing public discussion, there is no federal agency charged with sponsoring funding for any kind of media research. Not the National Science Foundation, not the National Institute of Mental Health, not the National Institute of Health, not the National Institute of Child Health and Human Development, not the Department of Education, nor the FCC or FTC, which is charged with sponsoring a program that funds any kind of media research. One of the goals of the Children's Media Center and one of the goals of today's session is to raise awareness of this funding issue. With federal funding for long-term research, we will gain a firm understanding of how interactive digital media experiences affect children's long term social adjustment academic achievement and personal identify development. But most importantly, we will empower parents and educators to make informed decisions about our children's media consumption.

There are important events on the horizon, which makes today's workshop even more important. Currently the National Institute of Child Health and Human Development is considering a longitudinal study of environmental factors that influence children's development. This study is projected for 30 years and is expected to begin within the next few years. We hope that media and technology use measures will be considered as environmental factors that may

influence development. Considering that there is no longitudinal study in the U.S. that routinely collects media use measures on children and relates those to other developmental outcomes, this new study is particularly important. This 30-year NICHD study could be ground-breaking in providing us with ongoing information about media's role in the context of children's development and health. We believe the study is a crucial opportunity and one that we cannot miss. Therefore, the Children's Digital Media Center and our colleagues in the industry are working with policy makers here in Washington to raise awareness of what we do and don't know about the role of electronic media in children's development. We believe that with adequate funding, there is much more we could know to help parents, policy makers, and producers who want to create educational quality media for children.

On that note, let me introduce the panel of experts who will be here to talk a little bit about their research and the things we know, and perhaps answer some of your questions. There are full biographies in your packets, so I won't give you a full biography. Let me first introduce Don Roberts from Stanford University, a communications researcher who has done quite a few studies on children's use of various media. Sandy Calvert, my colleague in the Children's Digital Media Center, the principal investigator for that center, and a developmental psychologist at Georgetown University. Dan Anderson, a developmental psychologist at the University of Massachusetts at Amherst. Michael Rich, a pediatrician and professor at the Harvard Medical School and Harvard School of Public Health, who is looking at health outcomes of children's media use. John Murray, a developmental psychologist at the Kansas State University. Amy Jordan, a policy researcher and communication researcher at the Annaburg Policy Center at the University of Pennsylvania. Gary Knell, CEO of Sesame Workshop, the producers of *Sesame Street*, sort of the icon of the power of television to do good and be educational and delightful in children's lives. And Dorothy Singer, from the Yale Family TV Research and Consultation Center, a psychologist at Yale.

With that as introduction, I don't believe the Senators are here yet, so I think I'll turn it over to Don Roberts for his five to six minute presentation.

Don Roberts: I have five to six minutes, and I am going to speak rapidly. I have three points to make today. The first is pretty obvious. It has to do with U.S. children's immersion in media. The second deals with an issue that I've been calling the ghettoization of children's media and children's media use, the fact that we are isolating our kids with their own media. Thirdly, I want to talk a minute or two about multi-tasking, a phenomenon that we've seen in the last ten years in particular, where we see kids using two, three, four, and I have examples of five and six media, simultaneously.

First of all, I want to talk about the typical average American kid's home. In it, you'd find three TV sets, three tape players, three radios, two VCRs, two CD players, a video game console, a computer, and if you look carefully, a partridge. It's not surprising that when you have this kind of an environment for the average American kid, you get a great deal of media exposure. What you can see here is that our kids between the ages of two and seven years of age are spending over four hours a day exposed to media messages. Between eight and eighteen, the kids are close to eight hours a day, between seven and eight hours a day.

Now, I want to make a point here that this is exposure. If you read a book for an hour and you listen to music for an hour, you have two hours of media use and two hours of exposure. If you read a book for an hour while you are listening to music for an hour, you have two hours of media exposure but one hour of media use. When I'm talking about exposure, I'm counting in

all of the times of simultaneous media use, and that will make a real important difference to what I have to say in a few minutes.

Going on with this kind of being immersed in media theme, if we look at the media in U.S. children's bedrooms, what we find is that more than half of our kids between the ages for two and eighteen have a television in their bedroom; half of them have a CD player; a third of them have their own video game player; another 30% with their own VCR. If we just look at the older kids, eight to eighteen-year-olds, two thirds of them have their own television set in their bedroom. Unless you think it's just the oldest kids, we find that among the two to four-year-olds, 25% have their own television set in their bedroom.

This is really an introduction to the media ghettoization idea. Kids are spending a tremendous amount of time watching media in their own bedrooms absent any kind of parental presence. One of the things we then did was go back and look at kids with and without a television set in their bedroom, and look at the amount of television they watch. When we do that, we find out that at every age level, if you have a television set in your bedroom you watch substantially more television, up to an hour more per day. This tells us that kids are not getting the kind of supervision that we would hope they would have.

The numbers that we were coming up with, "My, gosh! What's going on with a kid that averages four hours of television per day?" That's just the average. That means that we are finding kids who are getting six hours of television per day. And then when you add in the other media, you get really big numbers. So what we did was go back and take recreational print use, television viewing, and recreational computer use—this is all leisure time stuff, not associated with the schools. We broke them out in terms of low, moderate, and high viewers. We're looking just at 18-year-olds. When we did this, we found that we have 22% of a national sample that are reading more than an hour a day. Those are heavy readers. We have 24% of our kids watching five hours or more of television per day, the heavy television viewers. And we have just about 14% using a computer for more than an hour a day. What we then did was ask the question, "If they are spending so much time with one media, is it taking time away from the other media?" We were testing what's called a classic displacement hypothesis, and the idea here was to answer some of the speculation that kids are spending so much time with computers that they are probably reducing their television time, they are reducing their time with videogames. Well, here is what you get when you look at low, moderate, and high TV viewers and then you look at all of their other media use. So a low and a moderate television viewer uses all other media four hours per day, but a high television viewer uses all other media over six hours per day. There's a two hour increment among those kids who are watching the most television.

From there, we went on and we looked at the computer, and here's where we really started thinking about my third point, multi-tasking. Low and moderate computer users, the kids who don't use a computer on any given day or use it up to an hour, spend about six and three-quarter hours per day on all other media. High computer users are spending eleven hours a day on other media. This is my point about exposure and use. What we find here, and when we started interviewing these kids it became very clear, the typical behavior of a U.S. adolescent is you walk in, you turn on your computer, you start downloading and streaming music. You probably bring up a video, you bring up your instant messaging system. If your little brother is there, you ask him to turn the television on over in the corner. You open your phonebook and you dial. And we have many parents describe this to us, that four and five media simultaneously are becoming the norm in a lot of these bedrooms. Bedrooms behind the doors of which parents don't see.

Why do I pick these particular issues, the amount, the ghettoization, and the multi-tasking. Very quickly, it seems to me when we are talking about ghettoization of media use, we are talking about households that have very few kinds of rules about television viewing or any other media use. We find if there are going to be rules, it's going to be about television viewing. We don't find many at all. We find a lot of media in children's bedrooms. We find the kids are going in there to use those media, getting out of the way of parental oversight; and indeed, most of the time, most of our kids are using practically every medium you can think of absent parental oversight, which is somewhat different from what our data told us about 30 years ago. Finally now we have a great many media outlets that are dedicated to youth or adolescents. That in fact, in many ways, they are telling parents to kind of stay away, that this is for kids.

Secondly, we know that multi-tasking is increasing media exposure. The kids who used to watch or use media four and five hours a day are now being exposed to media seven and eight hours a day because they are doing two to three things at once, this is becoming the norm. What I find one of the most interesting questions where we have almost zero data, one of the areas I'd love to see a lot of research, is the multi-tasking has applications for divided attention. That is to say, I would hypothesize—and it's just a hypothesis—that kids who are sending an instant message, listening to music, and watching a television screen simultaneously are not processing those messages at the same depth. There is evidence from a long tradition of research and persuasion that says when you don't process deeply, when the information just passes over you, you may be far more open to the influence of any or all of those messages. That's an area where it seems to me we really need to pay some attention. And I'm done.

Ellen Wartella: Thank you, Don. May that be the way we go through the whole afternoon. Sandy Calvert is going to talk about interactive media and development.

Sandy Calvert: Thank you, Ellen. I, too, would like to welcome you all here today, and thank all of those who have worked so hard to make this event happen. The new digital media promised new opportunities for learning. One important property of many of these digital media, said to be the key to this enhanced learning, is interactivity. But what exactly is interactivity? Interactivity is fundamental to human relationships, be they off-line or on-line, as it is the process by which we communicate with one another. Interactivity has been defined as an exchange of actions or ideas that build on previous exchanges. Your turn, my turn. Through these exchanges, interactivity fosters learning by creating a bridge or a dialoged between the knower and the knowledge to be known. Today, I'm going to talk about a couple of studies about interactive media to highlight what we know. And I will put forth a few pressing questions where we don't know answers yet, but we will.

Interaction can influence behavior more than observation. Gaming, for example, is a popular part of interactive experiences. We became interested in the effects of a violent virtual reality game called *Dactyl Nightmare*, in which players can experience a three-dimensional game. Older adolescents were compared after they interacted with this game, after they observed others who interacted with this game or after they simulated game movements. What we found is that those who interacted with the game became more physiologically aroused and had more aggressive thoughts than those who observed the game or simulated the game movements. What we took away from this is that doing an activity can be more powerful than viewing it.

A second area of importance involves how new online digital media are impacting social interactions and identity formation. Children and adolescents can now participate with one another online in a variety of ways, such as email, MUDs, which are multi-user domains, instant

messaging, or role-play games. Although we have no real physical body online, we can create one, known as an avatar. Players engage in a variety of activities in these online settings, such as getting married. Our CDMC team at Georgetown created our own MUD, and we examined how fifth and sixth graders interacted with one another. Children could choose scenes, drag their characters around, change facial expressions, and talk to one another. We found the boy pairs moved around more, changed scenes more, changed emotions, and played more than girl pairs. Girl pairs talked more. When you mix the pairs together, girls got boys to talk more and boys got girls to move around more. These online patterns parallel gender differences found in real life, making online activities not only a form for exploring, but also a space for reinforcing typical gender patterns.

There are so many new interesting questions that still need to be explored. Let me highlight just a few. What cognitive processes occur during learning from media? This research line involves brain mapping with functional magnetic resonance imaging. It would be particularly interesting, for instance, to know if different parts of the brain were activated when we observed versus interacted with content. In what circumstances is interactivity versus observation better for learning? Interactivity had a stronger impact than observation in our virtual reality study, but I don't think film or DVDs will lose their audiences. The temporal flow and continuity provided by film and DVDs, in which we suspend reality to become a part of fiction, may actually be better for plot comprehension than is the case for interactive stories, where the temporal flow is disrupted.

What role does age play in children's learning from new media? We know that there's a major change in children's learning at about ages nine and ten from television program. But what about longer narratives like film and our DVDs that are now emerging? When and how does transfer of learning from media to real life take place? We know that children can apply information that they learned from television to their real lives. What about the new media? Children live with new, interactive media at their fingertips. Answers to pressing research questions can improve their lives. Our goal will be greatly facilitated when there is consistent government funding to create a coherent media database that can be disseminated to our citizens. Thank you.

Ellen Wartella: Dan Anderson from the University of Massachusetts will talk about media and the very young child.

Dan Anderson: Until recently, there has been little interest in the impact of the electronic media on infants and toddlers because relatively little was produced for such young children. Things have changed. Video and television programs are increasingly being developed specifically for children under three, and numerous computer games and electronic toys are available for infants and toddlers. Videos produced for infants now constitute approximately a \$300 million annual growth industry. This has profoundly changed the developmental experience of American infants. Instead of beginning television viewing at two years of age, as my research showed in the 1970s, a very recent study by Webber and Dorothy Singer indicates that children are now starting to watch videos at six months of age and television programs at nine months.

What do we know about the impact on very young children of videos, television programs, computer games and the electronic toys? We know next to nothing because there has been very little research. Almost all of our knowledge about the impact of media comes from studies age three years and older. We know from these studies that children greatly benefit from programs such as *Sesame Street* that are designed to educate them and teach them social skills.

We also know that they can be harmed, especially by television violence. But when it comes to infants and toddlers, we do not know whether the children can even comprehend the programs that are made for them. There is no information as to whether the programs are beneficial, harmful, or simply take time away from activities that are important for healthy development activities, such as toy play or social interactions. It is also possible that very young children have a fundamentally different conception of television than do other children. For example, if you show a two-year-old watching through a window where a toy is hidden in an adjacent and familiar room, the child will have no trouble finding that toy. If you show the child the exact same scene on a TV set, the child acts as if he or she has no idea where the toy is. Three-year-olds, on the other hand, have no trouble using the TV presentation to find the toy. There appears to be a very basic difference in how younger children perceive and comprehend television as a medium of information. As of yet, we do not know why.

In addition to watching videos and TV made for them, infants and toddlers are exposed to a great deal of media used by other members of the family. For example, many parents are currently watching war news, but in more normal times it might be TV game shows, dramas, sports, and other entertainment programming. For the very young child, this kind of television is in the background as they go about their toy play and social interactions. Because they do not pay much attention to these shows, parents usually assume there is no impact. This assumption may be wrong. It could be that background TV interferes with the toddler's ability to organize and sequence behavior. This could be a consequence of frequent distraction, or from other forms of interference as the child plays or tries to interact with the parent.

As part of a series of studies being done at U Mass, we have observed toy play by children aged one to three years, either with or without a background television game show. We found that background television interrupts children's play, cutting the average lengths of uninterrupted play in half. You can see the results for the one, two, and three-year-olds. Moreover, the youngest children in this research, one-year-olds, showed less focused attention as they played. Focused attention is actually a technical term that involves and describes very intense engagement as a child plays. This is the first evidence that background television contributes to disorganized behavior in very young children. From zero to three years, there is rapid brain growth, reflected in rapid behavioral, language, cognitive, and social development.

We know that children's environments profoundly influence developments in all those areas. One hundred years ago, children grew up in relatively quiet surroundings, with books, family stories, and family music the main forms of entertainment. Today, electronic media pervade the lives of children, and increasingly the lives of babies and toddlers. It is of the greatest importance that we understand the implications of this change in children's environment. The impact may be beneficial in some ways, and harmful in others. But in order to maximize the beneficial impacts and minimize the harmful, we have to understand them. In order to understand them, we have to do systematic and careful research.

Ellen Wartella: Thank you, Dan. Michael Rich of Harvard's Medical School and Harvard's School of Public Health and John Murray from Kansas State University will talk about media and children's health.

Michael Rich: Thank you, Ellen. The first question you all should be asking is why, with all these great experts here on psychology and communications, is a pediatrician up here—why am I not giving vaccinations somewhere. I'm here because I think I have the best job in the world, and my job is to keep healthy kids healthy. In general, kids do stay healthy if we stay out of their

way; but in order to do that, a good pediatrician and public health researcher needs to understand and avoid threats to child health. I, like Dan Anderson, am going to back 100 years to talk about that because 100 years ago the leading cause of death and illness in children were infectious disease and birth defects. We did not solve that through immunization, although partly through immunization. We solved it mostly through looking to environmental health effects. We found there was poor sanitation, crowded housing, and pollution leading to these infections and birth defects.

One hundred years later, things are very different. The leading causes of morbidity and mortality in young people are violence; nutrition, both in the aspects of obesity and eating disorders; substance use; and sexually transmitted diseases. They are the outcome of acquired health risk behaviors. How do we acquire those health risk behaviors? When you ask kids what their leading sources of information on lifestyle, health, and interpersonal relationships are, they cite media as one of the leading sources.

So 100 years later, now in the thick of the information age, we have to look at media as an environmental health issue. As a public health person investigating a series of health problems, we look at four things. We look at exposure, something that Don Roberts has spoken to very eloquently. How are we exposed and how are we affected? We look at effects, what happens to us when we are exposed to those forces of infection. We look at the mechanism of that infection if you will. How does it work when we come in contact with it? Finally, we look at interventions. What can we do to stop it? What are the antibiotics or the vaccines necessary to change the course of this epidemic? There are many, many studies out there over the last 45 to 50 years on the effects of media violence. I will cite only two in the last year. A year ago, in *Science*, probably the foremost research journal of all, and hardest to get into, I might add, Johnson and his colleagues followed 707 young people for 17 years. What they found was increased time spent watching television during adolescence and early childhood lead to increased odds of aggressive acts in adulthood. Many people are concerned about early childhood effects. What they found is that even later in life, this effect continued. It is a cumulative experience. This association remains significant, even when we controlled for a lot of the other factors that we see feeding into violence. Previous aggressive behavior or aggressive temperament, childhood neglect, family income, neighborhood violence, parental education, and psychiatric disorders; when those were controlled for, the media effect remained.

Raul Huseman and colleagues this year published a study that looked at six to ten-year-olds' exposure to television and their adult aggressive tendencies. Increased television exposure once again predicted adult aggressivity. This held true controlling for socioeconomic status, intellectual ability, and a variety of parenting factors. A broad variety of research in many disciplines has indicated that media violence contributes to increased aggression and violent behavior, what some researchers have called the "Mean World Syndrome": fears, nightmares, and sleep disturbances, particularly in young children; and to all of us, desensitization. We are all desensitized to violence and suffering in others when we are exposed to this on a long term basis. So how does this occur? I'm going to step aside and let John Murray speak to the biological basis for these behavior changes.

John Murray: We were interested in the ways in which children process the violent material. We know from experimental stories and correlational studies that viewing violence leads to increases in aggressive behavior and these other changes that Michael just talked about. But how is it that a violent image or video or film translates into behavior? So we've conducted a pilot study at the University of Texas Health Science Center in San Antonio and Kansas State where

we took eight children, five boys and three girls ages eight to thirteen and showed them violent, non-violent, and some other control stimuli to be viewed while they were in a magnetic resonance imaging unit. What we're basically interested in here-- (I usually put this line up because Senator Brownbeck and Senator Lieberman love this because it sort of describes the process of legislation through Congress). But my point in this slide is that all of this stuff we have been talking about, the behavioral research on attitudes, values, and behavioral change, is over here on this right-hand side, and there are a lot of complicated issues in there. What we're interested in is this left-hand side, how does it get from observing behavior to encoding it and storing it away and the availability of aggressive scripts.

I'll tell you what the three types of television stimuli were. The violent stimuli consisted of two three-minute clips of boxing from *Rocky IV*. If you've seen one *Rocky*, you've seen them all. This one is about a super-human Russian fighter who kills Rocky's friend in the first fight in the ring, and then Rocky comes back and beats him at the end. There is a lot of stuff in between, but we took those two three-minute fight scenes as the violence. The non-violence consisted of three minutes from PBS Children's Television Workshop *Ghostwriter* program. It's a mystery program about literacy. It's literacy set in a mystery context that is non-violent. And also a three-minute National Geographic special on baby animals at play. Not the Time Life specials where the animals rip throats out—it was just play. The other control was an X on a blue screen because there is a lot of activity associated with just having your eyes open in the MRI. Anyway, they saw these 18 minutes of video while they were lying on a magnetic resonance imaging unit. We beamed them down the bore of the unit and bounced it off a plastic mirror above their heads. They had earphones so they could hear. We continuously scanned their brain for 18 minutes. We scanned for about five minutes before and five minutes after to get structural, but the 18 minutes of functional, that is scanning while they were watching whatever they were watching. We subtracted out, for the purpose of this slide, all of the things that were active while they were watching the X on the blue screen, all of the visual stuff. We subtracted out all of the things that were active when they were watching the non-violent media. So what you see up here is what's residual, what's left and uniquely associated with viewing violence. There are eight of these things here, but they are not eight different people. They are all eight brains together and summed over the six minutes of violence, in that case. These are just successive slices down through the brain, starting at the top over here down to the base of the brain here.

Two things were important. We went in expecting to see the amigdila, the little organs at the base of the brain that control fright or flight, sense danger in the environment. We expected to see that activated and we received that. We expected to see right-sided activation because a lot of emotional processing goes on on the right side of the brain, at least for right-handed people. We're not clear about left-handed people. They are very sinister, you know. And we expected to see that and we got them. There's the amigdila on the right side, and generally the right side activation.

The two things that we didn't expect that surprised us that were very important, to sum up, is we saw activation up at the top of the brain, on the prefrontal cortex area, an area called the pre-motor cortex. It's not the area that controls movement, it's the area that controls thinking about making movement. They couldn't move in the MRI. Had they moved, we would have seen motor cortex. But what they seemed to be doing is thinking about imitating the boxing, the close and interpersonal violence.

The second surprising finding was the back of the brain, the posterior singulet. That is an area of the back of the brain that we know from other research is the repository of post-traumatic

stress disorder. People suffering from PTSD store these traumatic memories in the posterior singulet. When they are asked to recall it while their brains are being scanned, that's the area that is activated. These kids were storing away entertainment violence in an area reserved for traumatic or significant life-changing events. I'll stop there.

Michael Rich: Thanks, John. So how real are these effects? Another study that looked at a group of studies, hundreds of studies together, found that the strength of the correlation between media exposure and aggression is stronger than that of many that we pediatricians use as fact and in preventive medicine on a daily basis. It is a stronger association than that between the milk you drink, your calcium intake and bone density, than that of passive smoke and lung cancer, than that of lead exposure and low IQ, or that of condom non-use and HIV acquisition. Yet all of these previous ones, we act on every day as fact.

The following one we are still just grappling with. What do we have to learn? What is the research evidence to date? The outcomes, such as violence, must be standardized. The research is all over the place right now. The findings validated and systematic reviews and meta-analyses conducted. We need to look at the work that Dr. Murray and others are doing with brain responses to media content coupled with the long term outcomes. And we need to look at ratings creep, the fact that what was an R movie years ago is now a PG movie. How do we do this? We at the Center of Media and Child Health at Harvard are starting to develop epidemiological models and evidence based guidelines for clinicians and teachers. We are trying to develop and implement a standardized developmentally appropriate objective system for determining the impact of media on kids, to develop, implement and evaluate interventions in the form of media literacy creating informed critical consumers to give these kids condoms for their brains, basically. And to explore positive uses of media to enhance and support children's health and well-being. Thank you.

Ellen Wartella: I'm going to interrupt the panel since our two very important and special guests have arrived. I'm going to do very brief introductions of both. My notes say that Senator Brownbeck is going to speak first and then Senator Lieberman. Senator Brownbeck of Kansas has been a Senate leader in encouraging increased corporate responsibility among the entertainment industry, and combating entertainment violence. Over the past several years, Senator Brownbeck has convened and chaired several hearings and forums on the impact of violent entertainment on children, and the marketing of violent adult rated entertainment to kids. In addition, he proposed the Federal Trade Commission report on the marketing of adult rated entertainment to children, an idea that was later adopted by then-President Clinton. He also convened the first ever public health summit on entertainment violence, which included the release of a consensus document signed by the six major medical organizations, articulating the public health consensus on the impact of violent entertainment on children.

During his tenure in Congress, Senator Brownbeck has proven himself to be a policy maker who believes in anything other than new jerk legislative reactions. He is instead a thoughtful, well-reasoned politician, especially in the arena of cultural policy and media violence. For example, in just the last year and a half, the Senator and Senator Santorum of Pennsylvania and Senator Lieberman of Connecticut have begun convening a regular meeting of CEOs from companies around the nation who are concerned about this topic, with a goal of giving a handful of impressive CEOs a stake in this issue, and making both citizens and industry accountable. One result of these outreach efforts is that Martha Williamson, producer of *Touched by an Angel*, was impressed enough to create a show based on the effects of playing

violent video games, a program that highlighted the research of John Murray from the Senator's home state of Kansas. It is my great pleasure to introduce Senator Sam Brownbeck.

Senator Brownbeck: Well, greetings. Delighted to have all of you here. We just passed a bill on the floor, and Joe and I came from that, where we had the announcement and the celebration associated with it, with the Care Act, and now here with this great group. I'm delighted to have you here. We've got a celebration going on in Baghdad, which we are all very thankful to see, as liberation is moving forward in that country.

What we are here to talk about today on media impact, and particularly getting the research, I think you really hold the key to us solving and addressing this issue. People in the research community to come out with the specific information. Not too long ago, when the anti-cigarette smoking campaign really started, a number of people were saying, "You shouldn't smoke." People would say, "Why?" "Well, they say it's bad for you." They would say, "Well, you don't have any proof of that," even though people were waking up in the morning and they were coughing, they didn't feel good, any of that. But the research hadn't proven the nexus, the direct connection, between smoking and lung cancer. The industry could go it's way and say, "It's okay to smoke. It's not bad for you. You don't have any proof. We don't have any documents, no proof." That went on for countless years and countless lives impacted by it, until finally the nexus was proven. The nexus has to be proven here, and we have to have a strong body of research information pointing to the connection between entertainment and violence amongst our children. Entertainment violence, and violence amongst our children. It also has an impact with anti-social behavior and sexual material that is used for entertainment, particularly towards our children, and the actions that then our children take.

If I told you today that a massive health problem is stalking America's children, how would you react? You would want to address it. If I told you that this public health problem is more likely to hurt children than second hand smoke or lack of calcium, clearly you would be alarmed. All of us would be. Policy makers across the country would be outraged, and at their highest decibel. Those who were associated with this health risk would be the focus of much complaints, attacks, and investigation. Yet that is the situation that exists today, and much of it is falling on deaf ears. A growing body of hard and verifiable evidence points to violence and sexual media content and its harm on children's development. Meanwhile, children nowadays have great access to the different forms of entertainment media, exposing them to a lot of violence at an age where they are developmentally incapable of distinguishing fantasy from reality, and their values are still being formed. This issue effects not just our children, but all of us. We must address it now, lest we continue to expose our children to this danger, and danger is definitely not too strong of a word.

I want to point out one study. A University of Michigan study discovered that exposure to media violence during childhood directly predicts young adult aggressive behavior for both males and females. This is true even when the effects of socio economic status, intellectual ability, and a variety of parenting factors are controlled. It's a stunning conclusion. In other words, the effects of media violence does not discriminate who it affects. While the study was small, it is the kind of striking evidence that this issue needs to finally call attention to what is becoming a national crisis. What has happened is we have a cultural environment that is polluted. It has violent material in it that is hurting our children, and all of us, our well being. And it is other material, and sexual material, that is hurting our well being. And if we were telling our children years ago that you shouldn't swim in the Potomac because it's deadly for you to do that, what are we telling our children today about the cultural environment of the

entertainment violence and sexual material that they consume. Are we adequately informing parents of what these choices are and the impact on children?

Professor Murray is a friend of mine at Kansas State University, who is doing breakthrough studies on brain mapping, hard evidence of what portions of the brain are activated when violence is being watched by a child. I think it is very instructive. We are hopeful of getting more funding for that sort of hard evidence work so that we can prove the connection, take it to the industry, and take it to parents and say, "You've got to be concerned about this. This is what your child is consuming. This is what your child is consuming mentally. You are concerned about what your child consumes when they eat. You don't want them to eat too much fat or too many unhealthy foods." You've got to be equally if not more concerned, I would suggest, about what their mind is consuming, and we need the evidence for that. That's why Joe and I are linking up on this policy issue of putting forward a direct center to be able to track and work on this. We'll let Joe talk about it more. It's also why we are going to continue these hearings. Tomorrow, we'll have a hearing in the Commerce Subcommittee on Science, Space, and Technology, on this very same subject. Held a hearing on neurobiological research and the impact of the media on the mind. This is a key thing. It's a key area. It's a key area of development.

This research and focus has been going on for now nearly 40 years. We need the breakthroughs, and the breakthroughs are going to come through you and the scientific community and proving the connection of its impact on children. Thank you for being here. Thank you for your effort. It's going to make for better children. It's going to make an environment, a cultural environment that is better for our children and for us. God bless you all. Glad to be here, I appreciate it.

Ellen Wartella: Thank you, Senator Brownbeck. It is now my pleasure to introduce Senator Joseph Lieberman of Connecticut. Senator Lieberman has worked on a number of fronts to help parents keep their kids safe, and ultimately to improve the quality of America's cultural environment. He started out by holding the first ever hearings in Congress on video game violence. He pushed game makers to adopt a detailed rating system to warn parents about violent content. And he has regularly challenged the game industry to reduce the amount of blood and gore in its products. Furthermore, he's issued annual report cards on game maker's progress and responding to parental concerns. Senator Lieberman was the lead sponsor of the V-Chip legislation, which supplied parents with new tools to screen out violence and offensive programs in the form of the V-Chip locking technology, which is now installed on all new televisions, and the rating system that was assigned to work with it. He has also been a vocal advocate for higher television standards, spearheading an effort to promote more education programs for children on broadcast television, championing the return of the family hour as a safe haven for young viewers, sponsoring legislation encouraging the industry to resurrect its longstanding code of conduct, and asking the Federal Communications Commission to determine if broadcasters are meeting the public interest standard prescribed by law. Please join me in welcoming Senator Lieberman.

Senator Brownbeck: Well, thanks, Ellen. Thanks to the Children's Digital Media Center and to Sandra Calvert for convening this meeting. Sam and I had the same reaction when we walked in the door. We were thrilled to see the room packed. I suppose we were, to a certain extent, surprised to see the room pack; but we are reassured that that is so and we appreciate the interest of the center and all of you who have come together for this forum. I suppose with the news of

the day from Baghdad, some might ask why we are talking about virtual dangers when we are engaged in a real war. There are many answers to that. One is that we hope to in various ways live in a world where violence is not the first resort, but only the last resort to the resolution of conflicts. Maybe the shorter answer to that, and in some sense more governmental, is that leadership demands are facing more than one problem at a time. The fact is that parents remain extremely concerned about the cultural climate their kids are growing up in today. I speak not just as a senator, but as a parent. The concern is understandable.

For more than three decades worth of research, much of it conducted by people in this room, that research has firmly established that the electronic media have a powerful influence on the attitudes, values, and behavior of America's children. At times, this has been a positive force. Too often, unfortunately, it has been a negative force, bombarding our children with images of violence and sex. The most extreme expression of that is a disturbing and irresponsible new trend in some of the top selling video games, most notably *Grand Theft Auto II*, which links sex with violence and rewards the players for degrading, indeed for killing, women.

We know conclusively that heavy consumption of media violence in particular can have harmful developmental consequences, desensitizing children to the effects of real life violence, making them more prone towards aggressive behavior, and encouraging them to treat violence as an acceptable and easy way to resolve conflict. But while what we know already can hurt us and our children, what we don't know in this case may in fact hurt us even more. The reality is that kids spend more time watching TV, surfing the net, and playing video games than they do listening to either their parents or their teachers. The media environment they inhabit is evolving at a dizzying rate, yet our understanding of the risks and the rewards is not keeping pace. That's true for many kinds of media messages that have been identified as potential risk factors for unhealthy behaviors; but it's also true for the positive possibilities of the electronic media. Does computer use by children, for instance, hold the educational benefits assumed by most parents? Do video games help hand-eye coordination and spatial relations? Are the pro-social messages being included in many TV shows today having their intended effect?

The research gap that exists makes it hard to answer those questions, and to have an informed debate about the role of the media in the lives of our children. It makes it even harder to reach consensus on what parents should be watching and asking for, and what advocates and policy makers can do to help. That is of course not to say that there's been no agreement or been no progress. Like most in this room, I have always believed that censorship and content regulation are unacceptable legislative responses to our concerns about media messages. Did you note the precious coincidence that this gathering is being held in what is called the First Amendment Room. There's a point to that. It is the responsibility of the parents, not the government or the entertainment industry, to decide what media our children consume. Just the same, there remain proactive steps that the entertainment industry can take to make the hard job of raising children in today's world easier. Hopefully those are steps that we can take together.

I have over the years challenged the entertainment industry to set higher standards and act more responsibly, and I am grateful that the entertainment and Internet industries have responded by working with us to give parents more tools to exercise more control over their kid's media diets, such as new technologies like the V-Chip and Internet filtering software, and better rating and labeling systems. The response had been significantly made in the last couple of years to the FTC reports that showed that some of the entertainment industry was aggressively marketing adult rated media products, that is products that they had rated only for adults, in fact to children. I think they have gratefully pulled back on a lot of that.

Despite these advances, the fact remains that too many conversations about media and children still get stuck in the realness of these facts. As a result, too little attention is being paid to how we can minimize the potential for harm and maximize the potential for good. It is imperative that we begin to fill that research gap. Today's forum, I must tell you, is a critical first step in that process. For that I want to thank and applaud our distinguished panelists and guests. I know that in one sense, it takes great courage for an academic to admit in public no less the full breadth of what you don't know. So for that, I am grateful. Senators have an even harder time doing that. But it's not just enough to raise awareness, we've got to really increase our knowledge here, and that means putting our money where our minds are, and investigating through new research.

With that in mind, I am very happy to join with Senator Sam Brownbeck as he and I are announcing today that we will soon introduce legislation to set up a new program, a new center, within NIH, to focus a reasonable amount of funding on a wide range of studies examining the positive and negative consequences of children's media use. Our hope is to not only learn about the hot button questions regarding violent and sexual images, but about how the electronic media influences children's behavior more generally, their cognitive development and their educational achievement. We are particularly interested in the impact on children six years and younger, now that they are being exposed to multi-media at unprecedented rates. I have been informed that some children will be learning their ABCs from Elmo on their parents' cell phones. It is a new world. We are particularly interested on the impact of interactive media on our kids, now that the Internet has become such a staple. Video game sales have surpassed media box office receipts. That's a very telling and in some ways stunning statement. Video game sales receipts are greater today than motion picture box office receipts. That means that we've got to know whether games like *Grand Theft Auto* that celebrate violence against women particularly beyond being horrific—if you've seen it. It's disgusting, sick, and every other horrible adjective I can come up with. Whether they are actually leading to more violence against women.

I understand these can be complicated questions to answer, but knowing the extraordinary brainpower in this room, and in similar rooms and laboratories across the country, I am confident that if we make this a priority, we can increase knowledge and clarity here and that will be knowledge and clarity not just about how the media today affect our children, but how and in which ways we can best protect them. So this is an important day in an ongoing effort to raise our children and give them the kinds of values and the sense of security that we have always wanted for them. For that, I thank you for your initiative, and I look forward to working with you in the years ahead. Thank you very, very much.

Ellen Wartella: Thank you, Senator. I once again want to thank Senators Lieberman and Brownbeck for their support in this initiative. It was a very nice interlude since it was a wonderful segue from the panelists who were talking about the violence research, to Amy Jordan who wants to talk about the media research policy gap. I think the senators gave you an entrée for that, Amy.

Amy Jordan: Of course, I get to follow the Senators, and have people leaving the room. I think all of us who are sitting at the table today would like to think that the research that we do has some sort of consequence for the kinds of policies that are made. Research, for example, shows that there is a negative impact of violent media on children's behavior. Policy makers introduce legislation that provides ratings for television programs and a blocking device that allows parents to get rid of those shows containing violence. Or for example, research done by members of this

panel, and longitudinal studies, longitudinal surveys, and laboratory experiments show that educational television can in fact be good for children, can be beneficial for their cognitive development. What we have seen is policy makers introducing legislation that mandates commercial broadcasters air a minimum of three hours a week of educational television.

So my own research at the Annaburg Public Policy Center reflects the dual nature of the media policy research that goes on; and in fact, it reflects the gap that exists between what we know about children's media use, and the public policies that have been introduced. So in response to the media policies that were forwarded in the 1990s, my colleagues and I, including Kelly Schmidt who was with me for a couple of years at the Annaburg Public Policy Center, we looked at how the industry implemented media policies, such as the V-Chip ratings, the V-Chip itself, and the three-hour rule; and how these policies were received or responded to by families and their children. For example, we've asked whether or not in fact parents use the ratings for violence, and whether or not they use their V-Chip to block out programs that they don't want their children to see.

We've looked at the inclusion of educational programs in broadcasters' lineup. We've asked if whether or not this has led to a more positive viewing experience for children. We actually have seen a little change as a result of these policies. Some parents do report that they use the ratings to monitor their children's viewing, and all broadcasters have consistently offered what they call three hours a week of educational programming, although for some this constitutes the entirety of their programming for children; but they are doing three hours a week. I think that we would all argue that the policies have not made a huge difference for children or their families. In our most recent experiment with the V-Chip device, we gave 110 families a V-Chip equipped television. What we wanted to see was whether and how parents would use that V-Chip to shape their children's media use, or television use. We tracked these families over the course of a year. We have reams of data and thousands of variables, but I want to highlight just one piece of information because I think it has a certain ironic symmetry to it. We asked families, and this is when we were collecting baseline data, before we actually gave families a V-Chip equipped television set, whether or not they would hypothetically use a device that would block out shows containing content that they thought would be objectionable. During that baseline survey, 75% of our families said, "Yes, I would use a V-Chip to block out programs that I don't want my children to see."

Now a year later, we went back to these same families and we checked on whether or not the families had programmed their V-Chip and were using the device to screen out shows that they thought were objectionable, and here's where the symmetry comes in. Seventy percent never tried it. Now, of course we want our research to tell us more than how many people used it and how many people didn't. We wanted to know, for example, who is more likely to use it, or why people do not use it. We did go into this study with a certain set of hypotheses, and of course they were based on what we do know about families, media, and behavior change. We expected that families who had been given more information, families whose awareness of the ratings and the knowledge of the V-Chip was raised, was greater, we hypothesized that they would be more likely to use it. So half of our V-Chip equipped TV families were taught what the ratings mean, and how to program the device. The other half were simply told that they had a V-Chip in their television set along with a host of other features of their TV.

I'm going to caution you because the numbers of V-Chip users is so small that it's a little hard to be terribly confident about this data. But what our data suggests is that awareness and knowledge does make families more likely to use the V-Chip, or at least try it out. Of course, there are many reasons why people did not use the V-Chip. Their children don't watch anything

they worry about. They have other effective ways of dealing with television in the home. Some families thought their children might somehow get around the V-Chip. But if the goal of this policy is to give an effective way and effective tool to shape children's TV viewing, it's my contention that some very basic research would have helped. This is the kind of research that marketers and product developers automatically do before they introduce a new product.

Our research and the research of others suggests that listening to parents in the early stages of implementation could have made a big difference. First, we learned very quickly that ratings are not well understood. Parents sort of get the age ratings, and they made sense to them because they roughly parallel the movie ratings. But ratings like FV, LD, these have no meaning for parents. Second, some basic pre-testing of the V-Chip device would have shown that it is too complicated for even the most motivated parents. It's buried. You have to go through five different menus in order to get to it, and you have to use a remote control with forty-something buttons in order to program it. Ultimately, parents are presented with a menu that is incredibly dense and very difficult to navigate. Of course the V-Chip policy is not the only one that suffers from a basic lack of understanding of how parents will receive program information that results from public policy. The three-hour rule mandating educational programming for children also carries with it a mandate to provide a symbol, some sort of information for parents to indicate that, "This is in fact an educational program."

What we are finding is that this part of the requirement, the information part, is being dumped into a void. Parents don't know this policy exists. Parents don't know these programs exist. In fact, how would they? The only bit of information they get about what shows are educational are these tiny icons in the lower left-hand corner of the screen. They are not exactly informative. ABC uses a light bulb, you may see it. There's a hand that clicks on it. So I would like to propose that we create a clear model for media policy studies that incorporates what our friends at Sesame Workshop call formative and summative research. While we virtually always do summative research, that is we do evaluations of policy implementation after the fact; and sometimes, after anything can be done to change anything. I recommend that we could and should be doing formative research, too. That is doing studies that reveal the best ways to carry out media policy before millions of dollars are spent on ineffective implementation.

To conclude, I hate to think that media policy research ends with a declaration that a policy is a success or a failure. The policy/research relationship needs to be extended, and I am going to argue this should happen in three ways. First, policy making can begin with a solid foundation of research, like that which has been produced by scholars on this panel, or has come out of other important organizations, such as Children Now. Policy implementation can benefit from research that looks at the variety of ways that it can and does unfold in the industry and in the home. Finally, with a steady flow of systematic and objective research, policy can be refined in ways that help it meet its long term goals of empowering families to make the most of a medium that has such great potential to be a rich resource in the life of the child. Thank you.

Ellen Wartella: Thank you, Amy. Gary Knell, President and CEO of Sesame Workshop will talk about the role of research in creating engaging and relevant media for children, something he knows something about.

Gary Knell: Thank you very much. As the only non-academic on the panel, Sandy, I thought when you mentioned this game, *Dactyl Nightmare*, you were describing the life of a CEO running an educational media company. It's not easy.

As Nora Jones said at the Grammy Awards, we live in very weird times. And our kids and grown-ups are bombarded by media today, where media is ubiquitous. The computers have become, as we heard today, in many homes the hearth of the home. We have all kinds of data about an obesity crisis in the country. We know from our six to eleven research that we announced in this building about a month ago that children's needs are not being addressed by the media. These are needs around issues around what's important to them, at home, around hope and bullying and other realities they are facing, and losing open spaces, among other things. Media is everywhere. It's in cars, mini vans, DVDs, cell phones now. Senator Lieberman is correct. We are already teaching the ABCs in Japan on cell phones, soon to be coming here. It's a media device that can actually be used to teach while mom is at the checkout counter waiting in a long line. There is lap ware, and our view is that hardware is dumb. The question, as the senators pointed out, and as everyone is saying here in their own way, is that the software can be either a positive engagement, or it can negatively role model.

As a not for profit organization that was founded 34 years ago, Sesame Workshop is really looking to create needs based content. We did create, thank you Amy, a research model that has had many imitators, which we actually take as a victory. It's part of our goal to do that. One that forms formative research in setting out an appeal in developing programs. We know that that model of connecting producers and researchers has worked over 34 years, and in putting letters and numbers on the screen to increase kids' attention and pro-social and emotional needs as well through the research that we've done.

So as we look out and think about where the needs are today, I want to point to two issues. I don't know whose quote this originally was, but it's quite wonderful and it says it all. The Kids for Interactive Research, Model Number One, we believe that the Sesame Workshop model, which is focusing on formative as well as summative research should be applied to interactive media. As we develop cell phones, Game Boys, and Play Stations, the workshop is taking a long time now in developing DVD platforms around using hardware such as the Play Station and the X-Box to teach kids as opposed to creating sort of action-filled, violent games. There is a real need to understand, especially for younger kids, the impact of these games on actually moving the educational needle forward.

The second area is in the age group of six to eleven-year-olds. We know from our research that there are a number of areas that are not being addressed in media. If you look at an almost lost generation, there is a glut of pre-school programming in this country now. In 1998, there were two pre-school shows basically, *Sesame Street* and *Mr. Roger's Neighborhood*. Today, there are at least four competing networks. There are about 22 pre-school shows. There are also networks now dedicated to teen programming. The Disney Channel is among them, Noggin is another one. The abandoned group is really the six to eleven-year-olds, who ironically are the kids who are most eager to learn, and the ones who are the most centered around school. They are the least engaged by media.

The conventional wisdom certainly is that television and other media cannot teach those kids, but we believe that they can. And we believe that research needs to be done to bring together the academic community and creative people, and producers to figure out how we can use the power of Spongebob Squarepants and the Simpsons to create educational media for kids. We know that this can happen. We also know that there is a big, broad world out there that our kids are inheriting, in which they need to know more of the underlying impact of why we are in a war in Iraq, and why the Israelis and the Palestinians are not connecting; and why the entire situation in terms of religion and understanding a broader curriculum for kids is critically

important. We think that those things can happen, and this is just a list of several items that we think could go forward.

So finally, I wanted to point out one last thing, Ellen, as we go forward. When *Sesame Street* was originally created, there was an eight million dollar investment in research, half of which came from the U.S. Office of Education. The other half was provided by foundations such as Carnegie and Ford, and additional funding from the Corporation for Public Broadcasting. To put this into perspective, you can multiply that out a few times over to understand just what it takes and the kinds of resources we are going to need, and the price tag; and to do what Senator Lieberman was talking about with the NIH, to really put some things forward to focus on the needs of children, both in the interactive ubiquitous technologies that they are facing today as well as that forgotten age group of six to eleven-year-olds. Thank you very much.

Ellen Wartella: Thank you, Gary. Last but certainly not least is Dorothy Singer, who is going to talk about media literacy and media education.

Dorothy Singer: Well, we have heard a lot about all of the devices that can help children and can control TV. The V-Chip, the lock boxes. Some of them work, some of them don't work. You've heard about the rating systems that many parents don't seem to understand, and that the children are very eager to explore especially when they think it's going to be a V or S rating. But one of the things that I think is really important to do is to think about how we can educate children to become critical viewers of television. I know when I was a kid, I learned how to use the newspaper. I learned the difference between an editorial, a little box that might be just something that would give me a human interest idea, or even what the ads were. I knew how to read a newspaper. But we rarely teach children how to read television. We assume it's a given, that you turn it on and understand it.

So way back in the 1970s, the government was much better about giving money to people who were interested in developing media literacy curricula than they are today. The Office of Education funded, design, evaluation, and distribution of four major projects: WNET, Channel 13 in the Southwest Lab, the Farwest Lab, and Boston University. The Center for Substance Abuse Prevention allocated funds in 1995 for elementary and high schools students to counteract drug abuse. Canada, Great Britain, and especially Australia has been very, very active in funding projects dealing with media literacy. Currently, a major Japanese network is funding a curriculum for use in the elementary, the middle schools, and high schools. So where are we in terms of our funding?

Non-profit groups also sponsor literacy projects dealing with the media, including the PTA. They have run workshops all around the country where parents are trained in how to use the curricula. The Center for Media Literacy, and the New Mexico Media Literacy Project, which is a model project, and funded in part by the state. The American Medical Association, the American Academy of Pediatrics, and the American Psychological Association have developed materials dealing with issues of violence on TV. At Yale we've developed curricula for kindergarten, second grade, elementary school, and junior high school students. So we started this back in 1979. That was the year of our first curriculum. The last one that we did was in 1995. We can't get money to continuing developing and testing these curricula because when we develop them, we do try to test. That's the expensive part. Testing it not only in a local area, but testing it across the nation.

So what are some of the goals of these literacy projects? One, how to understand the technical nature of the medium. How does television work? What are the special effects, the

camera techniques, and the conventions? I think it's important for children to know that when they see a zoom shot, this enlarged thing that you see on the screen in reality may be very small on someone's fireplace or a vase on a table. But when it fills up the whole screen, it's very hard to differentiate between figure and ground. I think program contents need to be taught.

Character development, stereotypes, plot lines, sub-plots, conflict resolution, values and ethics. There are different genres on TV. We have found that in our work, many children couldn't tell the difference between a documentary or a docudrama or a fictional show. So sometimes, walking away from a docudrama, they thought the facts were really true and valid. The economics of television, who really runs TV in this country? If we didn't have advertising or PBS, we wouldn't have TV. As you know, in most Western European countries, you pay for a licensing fee, which we don't do in the United States. You buy your set, and you use it. That licensing fee in many of the countries helps to pay for programming.

I think the intent of commercials on TV. I love to go to the supermarket and watch children because if you'll notice, the sugar cereals are all on the lower shelves, and that's the ones the kids grab. They learn which ones are going to give them that little toy inside and how much sugar they need. The ones that we eat are all up there, the brans, the oats, and the good stuff. So they need to also know that everything you see in an add is really not true in terms of the size, especially the toys. And what does it mean, each sold separately, batteries not included—you have to put this together. Many a father gets frustrated putting the toy together that he thought was going to be all whole in the box.

The violence on TV, what's the difference between verbal and physical violence? Sticks and stones can break your bones, but words do hurt. We need to know that that put down on TV followed by the laugh track really enforces some of the negative behavior in children; and they use those put downs on their friends. How they news is developed for TV is not very important if you've got a driving license and you are 16, but much more important to see the latest fire, rape, murder, kidnapping on TV.

What are some of the benefits that we've found in teaching the children about TV and how to become critical thinkers? There are some many good results. The reduction of aggressive behavior and an increase in pro-social behavior, and we've been able to document that using empirical studies. A group that were taught the curricula, and a control group, a school that did not. We certainly did see in a difference in the behavior graded by peers and by teachers. Changing in eating habits and less positive attitudes towards alcohol. Of course, I think the Harvard group is going to be very interested in that. Why are we becoming such an obese nation? Think of the food that's advertised. Do you ever see carrots advertised on TV, or good cold drinking water? Rarely. Changes in attitudes towards other ethnic groups. I'm still waiting for a program to have a Native American as a lead character in a show. I have yet to see that. Changes and choices of TV programs and reduction of TV viewing time. We found that when children learned how to use TV critically, they reduced the number of hours, and they reduced the kinds of programs. They changed the kinds of programs they were watching. They began to look at more quality programs. Then finally, another research finding is the clear understanding of advertising messages.

Research articles indicate that children are exposed to a curriculum teaching media literacy compared to children who do not have such a curriculum fair better in their understanding of the media and in their behavior. I have just cited some of the people who have done the research. The latest study we have found is that mothers more than fathers carry out mediation regarding TV. This seems to be true. If you look at who really is mediating vis-à-vis TV, it's generally the mother. But still television is used as the babysitter with very few rules

that parents impose and very little control over the number of hours children should watch, or even very little control over the kinds of programs the children should watch.

That last page was really just some sources of where one could find the research data and examples of the various curricula that are around the country. The final thing that I have to say, I'd like to go back to the people who gave us money, the government who gave us money in the 1970s. Where is that money now for teaching children how to use television critically to become good evaluators of television. A strong educational society makes a stronger viewing audience, a stronger audience in terms of democratic principles if you truly understand what you are watching.

Ellen Wartella: Thank you all for your patience. Everyone really kept to their time limit pretty well. We'd like to open it up now for questions for any panel member. Joann, right here in the front.

Joann Canter: I had a question for Don. The data you gave us about children's television use, is that the 2000 data?

Don Roberts: It was actually from 1999.

Joann Canter: Kids and Media at the New Millennium.

Don Roberts: That study. That study is about to be replicated. It would have been a five-year follow-up with the older kids, with a good deal more attention to the multi-tasking issues, to the fact that more and more we are finding that kids are using two and three media simultaneously; just like we have many people in this room who can talk on the phone, write, and listen at the same time.

Ellen Wartella: I'll point out to follow-up on that, the Kaiser Family Health Foundation will be fielding later this month a study of the mothers of children from six months to six years, to begin to look at their pathways, and their beginning uses of media as sort of a supplement to the Kids at the Millennium study. We hope that will become a biannual study. Yes?

Female: I am curious about the emphasis on entertainment television, especially when right now and say soon after 9/11 there was so much violence on television. That Schuster and Collins article which demonstrated that exposure to all of the TV about 9/11 caused much stress in the children. Why isn't anyone looking at news media?

Ellen Wartella: I don't know whether our panelists want to talk about that. I know there have been some studies since 9/11, but Joann Canter who happens to be sitting in the front row is one of the people who did most of the research during the first Gulf War about children's reaction to news coverage about war. Do you want to say anything, Joann? Are you doing any research, Joann? Joann Canter from the University of Wisconsin.

Joann Canter: I'm not currently doing research on this, but there has been quite a bit of research on the impact of 9/11 on kids and also I'm sure, right now people are fielding research on the impact of the news. I think the news ought to be in this agenda. We have only a small amount of information, and I think news is here to stay. I mean, the 24-hour news total

immersion is on right now, but unfortunately the way the world is, it's going to be coming back. I read in the paper this morning that the ratings for the all news channels are way up. So it's going to be there and preliminary information shows that the mental health consequences of being absorbed in this are dire, even for adults. So we really need to get this information out. I agree with you.

Ellen Wartella: Michael?

Michael Rich: Something to add to that is that we should all remember is that news are not covered by the TV rating system. So we do not have a social tool in place to make those choices yet. This is an area that I think needs more research and policy focus.

Female: Ellen, could we also here from maybe Susan Royer.

Ellen Wartella: I was just going to go there. Susan Royer from the Sesame Workshop. The Workshop conducted a study both before and after 9/11 on six to eleven-year-olds' perception of their environment. Do you want to talk about what you found after 9/11?

Susan Royer: I'll try to be brief. We have done a series of studies among children between the ages of six and eleven. Two of the studies that we've done, one was immediately after 9/11; and then we re-did the study in May 2002 about eight months after the event. I think what we found in our research is that immediately following 9/11, surprisingly there was a tremendous amount of support from society as a whole to counter some of the negative imagery they were getting about the event. In the end, kids seemed to be pretty resilient in moving forward after that. What we found that seems to be more traumatizing to them is the onslaught of the day to day violence that they see coming through the news medium. A lot of times, this is coming at them in ways that they are not inviting. So they spoke a lot about sitting at home watching a program that was for them and having the ten o'clock news come in and promote some horrible violence that is happening. So interestingly, what seems to be most imperative for them is addressing the news of the everyday events of violence, not so much 9/11 or even the War.

Ellen Wartella: Thank you, Susan. If I could just underscore one thing, this is another area where there has been far too little research. As the news media have changed to become, as Joann mentioned, wall to wall news on multiple channels, it's clear that we need to be doing much more research than we've done in the past because it's a new environment from the work that had been done in '72 and '71, comparing real-world violence from televised violence. Question over here.

Female: I think there was some mention of the fact that the more kids multi-task and the less the focus the more open they are to messages. I wondered if I had gotten that right, and if I did, could you explain it?

Don Roberts: I offered it as a hypothesis worth investigating. There is a lot of research in social psychology in the areas of persuasion, which indicates that if you are processing messages-- The term they use is peripherally, just not really deeply processing them, that under certain conditions, those messages can be much more influential. If we have kids who are multi-tasking, who are playing a game, talking on the phone, doing their homework and listening to

music simultaneously, my hypothesis would be that it seems reasonable that they are not giving undivided attention to any one of those message streams but that they are somehow dividing their attention among the four. First of all, for educational purposes, I would dearly love to know how they do that because they do it quite effectively. There are a lot of A students doing this who keep getting A's, so it's not ruining what they are doing. On the other hand, my hypothesis that I would like to investigate is to what extent does that divided attention make them more susceptible to different kinds of messages, and what are those kinds of messages, and which kids are those? It seems to me that in the last 15 or 20 years, this media multi-tasking phenomenon has really started to take over, and we don't know anything about it.

Ellen Wartella: Yes, Amy?

Amy Jordan: I'd also like to have us consider how children are socialized to use media in certain ways and that's why the research that you are doing on the under six-year-olds is so important. Back in the 1970s, social psychologist Gabriel Solomon found that there are differences in how children process information, their mindful processing of print, radio, and television; and that these are bound to how society-- at that time, it was Israel and the United States, teaches children to think that television is easy and print is hard. Parents, I don't believe, are really considering what kinds of messages they are giving to children about how much attention any one medium needs, even if it's a truly educational program like *Sesame Street*. They are in and out and their kids are playing and doing other things, as Dan suggests, with background television going on. So I think it's an important research project that we need to take on as scholars and theorists.

Ellen Wartella: Gary?

Gary Knell: Just following up on this, I think I want to speak on behalf of parents a little bit. There is a lost generation, I think, also of parents here, where the technology is way ahead of our generation's ability to keep up with our own kids. Dorothy used the word mediate, but I would use the word police. It's a very difficult environment at home, as Don pointed out. That reality you were describing my house, and the multi-tasking that goes on and just keeping up with my eight-year-old who is now learning Excel at school that I don't know how to use. Finding a way to understand kids creating the rules, which is what they are in fact doing in the house, ahead of their parents is a whole other area that's worth some research.

Ellen Wartella: Yes, question right here.

Female: There's an area where there are tremendous amounts of resources for research on this area, which is in the industry themselves that are marketing to kids. To what extent can we tap into that research, which I know is pretty much all proprietary? To what extent can we dialogue with that research, and to what extent have you had any luck in that dialogue?

Ellen Wartella: I don't even know where to begin. Sandy, would you like to comment on that? Alice Caan is here, who might want to comment on that. She has tried to do some of that with the Markle Foundation.

Sandy Calvert: The reality is that you do have proprietary research that goes on within industry. It's a business. So they really don't want to share that information with the general public. For years, I've had people who are marketers come to hear what we've been saying. Then when we ask them for information, they are very reluctant to tell us very much of anything. Now, maybe Alice has had far more luck than I have, but it's been kind of a one-way stream of information in my experiences.

Ellen Wartella: Alice is with the Markle Foundation, and over the last few years they have tried to bring some of that research out. Do you want to make any comments, Alice?

Alice Caan: For the last two and a half years, we've been talking about this issue with market researchers. It's not that there's not a lack of interest and it's not that they don't understand the need, but the research they are doing is for a very specific purpose and they are loathe to let it out of their own purview until it is no longer useful to them. I think the next question to ask, which is the question we are asking now, is once you've used it, then can it be made more publicly available? Then the question researchers would ask is, "Is it then worth anything, or has that ship sailed?"

Ellen Wartella: Dorothy?

Dorothy Singer: I just wanted to give you my experience in working with private industry. Many toy manufacturers will approach us and ask if we would do some research. We may sit down with their research person, but Yale is so protective. The first thing they do is bring the attorney in from Yale who then writes a contract that gives us complete freedom in how to report the research. I think that's really important to every university to have that freedom. So the ones we have accepted, the few contracts we have, we have the right to publish and present the results; and without any interference on the toy companies. That's worked out very well provided you have that upfront. Otherwise, I think you can let yourself in for a lot of trouble.

Ellen Wartella: I would like to just underscore one other thing. Both Sesame Workshop and Nickelodeon routinely present the findings of their research studies at academic conferences, at SRCD, at APA; and these are two organizations devoted to children that have been very public about the research they do since it's usually research that is not just market-focused to find out what kids like, but is much more what I'd call developmentally-focused to understand the role of their products in these media in children's lives. They are two unique organizations that do this; and most of the media organizations, in my experience, are interested in the market data. Market data are not the same thing as research that gives you a developmental understanding. Donna, I've been passing you by. Donna.

Donna: I think what I want to ask and say is kind of a follow-up to this discussion. Amy talked about the importance of before implementing policy we should do some research on how that policy is going to be received by the users intended for those policies. So my question is about the feedback of this important research that is going to take place back to the industry. You just noticed that Sesame Workshop and other public television networks that are represented here, Nickelodeon is here. The rest of the industry might have been invited, but they are conspicuously absent. At least I have surveyed the room; I don't think there are many of them here. I wonder if you have thought about that knowledge transfer equation. Once you have data,

how do you get that back to the primary entertainment industry, those people who are producing the shows that kids are watching. What plans do you have for crossing the knowledge transfer chasm and getting it to that particular user group? You know I'm very interested in that subject. That's where I work.

Ellen Wartella: Let's go with Gary first and then Sandy.

Gary Knell: We brought all of our attorneys to restrict the use of any of the research just for Sesame Workshop. No, I think Donna, you are absolutely right. One of the things we try to as an organization is to be creators of what we hope are solutions to some of the problems that exist, and the challenges of child development. So if there is a need out there, we try to come up with media applications to be able to do that. I think that driving that into the broadcaster's arena especially, and in some of the major Internet service providers who are moving more into proprietary broadband like AOL and Microsoft, Yahoo and others, is absolutely critical. We didn't talk about this today, but as we redefine the *raison d'être* of public television. This is exactly an issue of where they are going to own the space around education and child developmental needs going forward in order to continue to be subsidized by the Congress. So it's a completely relevant question and one that really needs to be discussed more openly.

Ellen Wartella: Sandy and Amy both have had experience in this knowledge transfer, so Sandy why don't you take it next?

Sandy Calvert: Very quickly, several of the panelists have actually worked within industry as consultants, so I know there is a real willingness to try to promote transfer of information. We would like what we know to get back to industry. It's very important to us. And we also disseminate via written form. I send things out to people in the industry that have just come off the press. To ABC and NBC, to Fox. You who were at Fox, I used to send you things. And we also invite people to join in on these panels, and I think there needs to be more of a dialogue that goes back and forth between the people who are creating and the people who are actually looking at the content. I am very grateful for Sesame Workplace and Nickelodeon in terms of what they contribute. But the other commercial broadcasters also have an important role to contribute to us.

Ellen Wartella: Amy, you have had experience doing this at the Annaburg Policy Center.

Amy Jordan: I have to say that there is a part of me that always worries where research that is as fundamental as Dan's or Michael's or John's is appropriated by the industry. We all know that we have different agendas. We work on behalf of making children's lives better and healthier. That's not necessarily what for-profit organizations do. The cynic in me looks at the EI symbols and says, "Well, of course they don't want parents to know that they are labeling *Recess* as educational because parent's might make some noise about that," or, "Of course they don't want to create an effective communications campaign around what FV means because they still want their kids to watch *Power Rangers*." So what the answer is, I don't know. Do we want to leap-frog over the industry and do it ourselves? I think it's very important that the information be available both ways from the industry to advocacy and academia and the other way as well; but I think it's also important to get the information directly to parents by having things like

meetings that are covered by the press where information is brought to people who are working and living in the home.

Ellen Wartella: Let me go to Michael and then to Don, and then I actually have something I want to say.

Michael Rich: I have just a quick add-on to Amy's statement, and this addresses both the question of how we can get resources or money from industry to fund this work and also how we transfer the knowledge. As a pediatrician, I work with not just the children but with parents; and I see parents as a huge mediator in this. The industry is driven by the bottom line, by the dollars. If they get wind that their consumers want something, they are going to be all over it. They are not that concerned by what we have to say or by what's good for kids; but they are very concerned about what's going to get eyeballs in front of the screen. So I think that we need to be more proactive as researchers in putting our findings in front of parents in ways that they can digest it, absorb it, and act on it. To encourage them that they do have power to change things, that those billions of dollars that the juggernaut has started in their pockets; and I think that's where the action is. I think we need to enlist the help and collaboration of caring parents who want the best for their kids, because those are ultimately the consumers that the industry wants.

Ellen Wartella: Don, do you want to add something?

Don Roberts: Yeah, I think it's very important to keep in mind that we have, what, hundreds and hundreds of channels now, and there is one Children's Television Workshop and there is one Nickelodeon. Most of the rest of it is commercial television, and they have an agenda that is quite different from our agenda. Now, the fact of the matter is that there are people who disagree on how a good a job the industry is doing meeting EI. Amy and I disagree on what constitutes a good and a bad program, at least sometimes we do. There are people in the industry who-- yeah, we do. I've watched four episodes of *Recess* and three of them I would put on gladly. I am one of those people who works a lot with various production companies, trying to do EI stuff, trying to bring my readings of the papers that Sandy sends and translate it into terms that people who are making day to day television make. If we come in saying, "Look, you are doing this for the good of the child," they are going to laugh at us. They are doing what they are doing for the bottom line.

If we are going to live in a system that decides we're going to have free enterprise and we're going to have a free market place—somebody decided it. I didn't, but somebody did. That's the way we seem to go. Then we're going to have to deal with that and we're going to have to figure out how to work with the commercial industry and talk with the commercial industry in ways where you can say to them, "You can do things that aren't bad for kids and still keep your bottom line." Instead of always telling them what not to do, we've got to spend more time telling them what to do; and not just condemn them, or we lose the battle.

Again, I have to disagree. I don't believe that in this world you can police your kids' media use. My God, half the people in this room are probably paying for their kids' cell phone subscription. Dummies. And your kids are going to be out there online when they are not around you. If you think you can police their media use, you can't. You are kidding yourselves. You've got to do the kinds of things that Dr. Singer is asking for. We've got to teach those kids how to process those media, and we have to look at some of the realities and figure out ways to

work with them. They are hard. We haven't done that. We don't speak English very well, we being the social scientists. We have got to learn how to do that. We haven't done it in the past.

Ellen Wartella: I'd just like to end on a *Pollyanna*-ish note, having been known to be a Pollyanna. We keep talking about television, which is an old industry. The fact is that we have new interactive media and new companies coming along. I'd like to point out that Leap Frog, which developed the Leap Pad based on considerable research into children's learning on how they read books and how they use that, is now the number two toy company. It's jumped over Hasbro and is right after Mattel. I think that we should take the opportunity in the interactive media arena to find ways to get our research and to talk to the people in these industries. They are not in the same kind of competitive environment as the television industry is. I am hopeful that if we become more assertive and find more settings in which researchers and media producers can come together that we may be able to have an impact in this new generation of interactive media. We're going to take time for one more question. Yes, sir?

Male: In various ways, the panel has spoken a little bit to this, but I'd like to focus on the issue of ratings and the current systems that are out there. I'd like to ask, one thing for parents is navigating the various systems. Amy spoke a little bit about the TV ratings. I would just be interested as to where you see that issue going in terms of research and the issues that you think are important. Also then from a policy issue, what types of things do you see coming down the road?

Ellen Wartella: Amy, do you want to take that?

Amy Jordan: Well, I guess after spending a year tracking families and their use of the ratings and their understanding of the V-Chip, I vote for a universal ratings system. I think that there are so many different systems out there between the video games, movies, and music and computer games, that it's just mind boggling for parents. They need something that's simple and that can speak to some very basic needs. You know, Michael's point about news not being rated really highlights the need for researchers to constantly revisit policies. In 2000, it wasn't an issue, news not being rated and the V-Chip not being able to block it. But now news breaks into the most innocuous of programs with parents not in the room and able to put themselves between the news and their child. It really struck me when Susan asked the question about news. When we surveyed parents of school age children in 2000 and asked them what shows they recommend their children to watch, the number one show was the news. There are no age appropriate news programs out there for children that I know of anymore. I don't know if *Nick News* is still on. I think parents don't quite realize that. So along with the ratings, we all need to providing as much information we can about what kinds of consequences children's media use has for kids in general, not just providing tools to block it out. So I agree with all of the strategies that the panelists have suggested.

Ellen Wartella: Any other comments? Yes, Michael?

Michael Rich: I very much agree with Amy's call for a universal system. I think it's alphabet soup out there for parents. They are barely in charge of what the MPAA ratings are, and they are a moving target anyway. The thing I would add to that is I think it needs to be an objective, non-industry assigned ratings system. It should be assigned by child development experts. It should

be assigned with scientific rigor, not with, “Which way is the wind blowing today?” which is what occurs. So what has happened in a situation where industries rate their own product is that the ratings become not a tool for parents to use to protect their children, but a tool for marketing. That is the unfortunate reality. These groups are not accountable. They are not even identified to you. You can’t find out who is rating this. And on top of that, as a child development expert, I take issue with the fact that the ratings are age based. A thirteen-year-old is not a thirteen-year-old. The person or persons best qualified to assess what a thirteen-year-old is ready for is their parents. I would call for a content-based rating system because I defy any of you to tell me what’s in and what’s out of a PG-13 movie, or a TV-14FV. So it’s not just that you don’t know but because the criteria are moving and they are making it up as they go along. We have a lot of data and a lot of experience with social science instruments that can create reproducible, valid, and reliable data. We should be using it to rate what we put into our kids’ minds.

Ellen Wartella: John, do you want to have the last word on this?

John Murray: Ooh, the last word. Well, I am not very good at multi-tasking, so I am still stuck on the first question, about news and coverage of the war and violence and kids. I hope Joann Canter is doing some studies on the effects of this coverage. One of the things that struck me, clearly we know from other kinds of studies that this constant wall to wall coverage of the war is stress inducing for adults as well as children. Think for a moment of the scenes from *Rocky IV* that we used, which was PG by the way; or more directly *Terminator I, II, III, IV, V, VI*, or whatever it is now; or *Rambo* and compare that to the scenes of the war that we’ve seen so far. I think it’s interesting that the Army and the networks won’t show up front close and personal injury. Now, I’m not recommending that. But they will show the disemboweling of someone on *Terminator*. The reason, of course, would be that it’s entertainment. It’s not real. It’s make-believe. And the one point I’d like to leave you with from our brain-mapping research is that the brain didn’t distinguish between what was real and what was make-believe. Those kids knew what Rambo and Sylvester Stallone were, but their brain responded as though it was an extremely threatening, dangerous environment.

Ellen Wartella: Point well taken. Yes, Gary?

Gary Knell: I just want to point out that we are ahead of the rest of the world on this, as scary as that is. What this means is that there are kids on the street, believe me, in Cairo, who watch every *Terminator* movie without any screening whatsoever, and are watching Al Jazeera seeing people disemboweled. What you are not seeing in the U.S. you are seeing in the Arab world right now. So there is not that distinction. If we don’t take the lead in figuring out ways in which television can be used responsibly and be a role model for the rest of the world, nobody is going to do it. That’s just going to add to the challenge.

Ellen Wartella: Before I do my official benediction, I just want to remind you that this program has been brought to you by the Children's Digital Media Center, and Sandy and I have three colleagues in the room that I would like to acknowledge. I didn’t when we began. Barbara O’Keefe, who is way in the back, who is our partner at Northwestern University; Patricia Greenfield, who is our partner at UCLA; and Elizabeth Vanderwater, who is my partner at the University of Texas. There is a little brief in the brochure about the Children's Digital Media

Center as a consortium of researchers at these four universities, Georgetown and Texas included. So I just wanted to do that.

I also want to remind you that as you are leaving, we have a variety of handouts that will be available to you, some reports that we are releasing today, and some reports of research by a number of the panelists. With that, I would like to officially ask us to once again thank this wonderful panel for their insight. And to think Senators Brownbeck and Lieberman for their interesting and wonderful announcement today. Thank you all for being here.