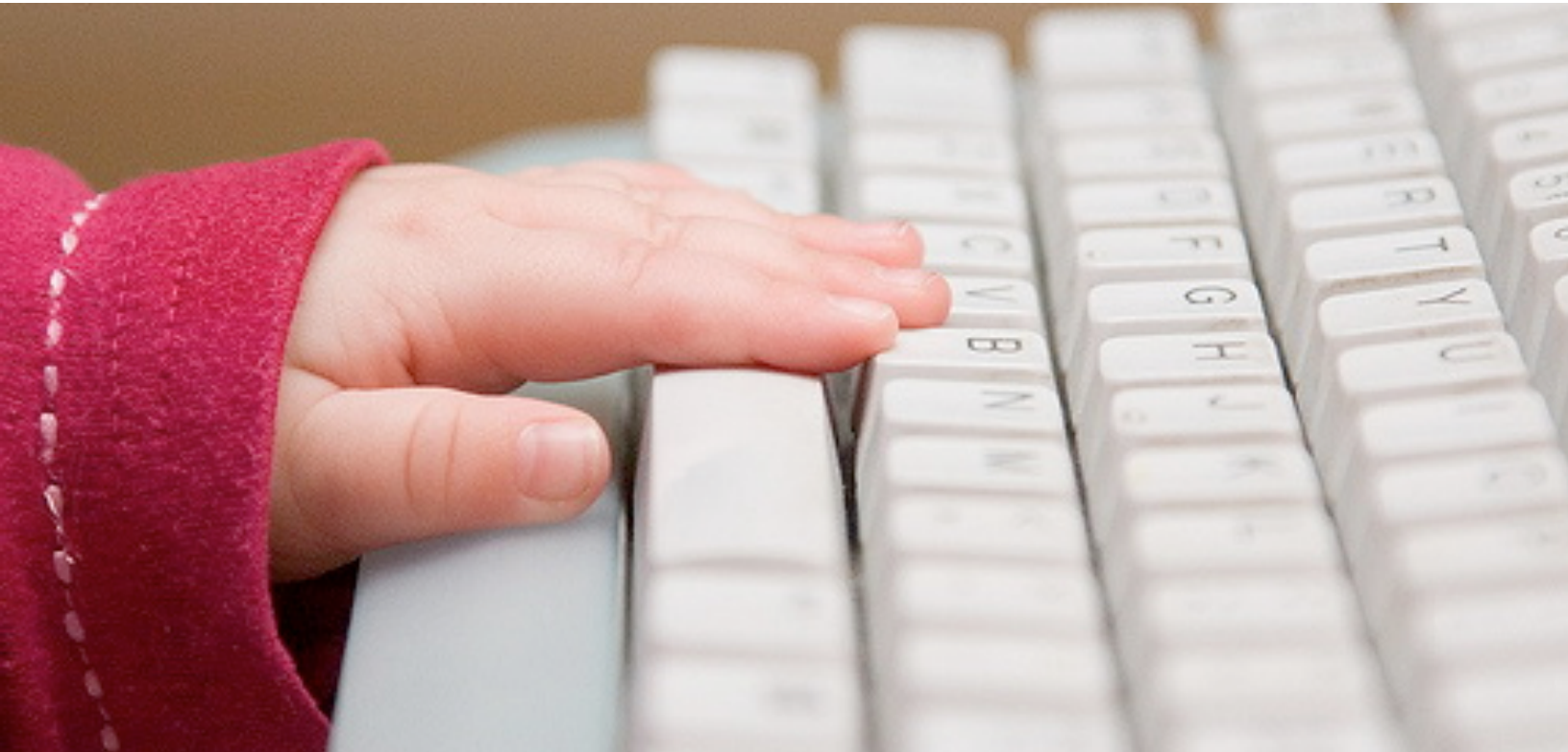![Berkman logo with Harvard shield] **Berkman**
The Berkman Center for Internet & Society
at Harvard University

Response to FCC Notice of Inquiry 09-94
"Empowering Parents and Protecting Children in an Evolving Media Landscape"

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As researchers, we welcome the opportunity to respond to the FCC's Notice of Inquiry (NOI)[1] on the important topic of empowering parents and protecting youth in this age of dramatic change. We write as individuals, but we work together as the principal investigators of the Youth and Media Policy Working Group Initiative at Harvard's Berkman Center for Internet and Society. The goal of our working group is to explore policy issues that fall into three substantive categories that emerge from youth media practices: 1) Risky Behaviors and Online Safety; 2) Privacy, Publicity, and Reputation; and 3) Information Dissemination, Youth-Created Content and Information Quality. Our work is intended to consider how research on the intersection of youth and technology can and should be used to inform policy. We seek to translate research from those who study youth media practices into terms responsive to the FCC's NOI.

I.   Introduction.

When it comes to youth and technology, issues of concern about the future – rather than issues related to opportunities – often dominate the public discourse. This is understandable. First, parents and grandparents are often baffled by, and sometimes concerned about, the habits of their children and the generations that follow – and this shift in behavior by many youth is surely no exception to that rule. Second, we are in the midst of radical transformations in the information technology environment and in patterns of usage of technology, changes that are bringing with them much creativity but also challenges to existing hierarchies. And third, adults perceive that their children are more likely to use these new information technologies in ways that are at best perplexing and at worst dangerous to themselves and to society. The data collected by social scientists about young people, how they use technologies, and the challenges and opportunities they face often are at odds with this public perception. We appreciate the frame of the FCC's NOI, which encourages respondents to focus on the empowerment of parents as well as the protection of our children with respect to online behaviors.

We focus in this NOI response on three primary areas of study:

Risky Behaviors and Online Safety.

In our discussions with parents, especially, online safety is the first issue that leaps to most minds when it comes to discussions about youth and media. Parents, teachers, law enforcement, politicians, and others fear the worst for children in the context of networked public spaces. The prevalent worry is that environments mediated through technology, where people can interact with others (including the Internet and, increasingly, mobile devices and gaming platforms), are inherently less safe than traditional public spaces. Too often, a split emerges in the debate as to what ought to be done: some people wish to educate youth so that they can be safe, while other adults prefer to restrict or eliminate youth's access to these technologies altogether. Politicians are proposing bills at the state and federal levels; law enforcement leaders are hosting assemblies and pressing legislation; schools are filtering access; and parents are tracking their children's online movements, all in the name of child online safety. While some of these interventions can make sense, and while almost everyone involved has good intentions, much of what people ground their arguments on is a sense of fear, not data. Furthermore, the approach most take is adult-centered, dependent on the fears of adults rather than the realities of kids.

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[1] http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-94A1.pdf

The goal of our response to this NOI is to highlight what many researchers are finding with respect to youth practices related to media. In some instances, we also point to the possibilities made possible by a range of public- and private-sector approaches to addressing the online safety concerns that kids in fact face. The conversation needs to be grounded in both the data about the real risks that kids face and the positive things that are happening online that might be affected by overreaching policy responses. We also need to begin the conversation with a realization that adult-driven initiatives – while an important piece of the puzzle – can only do so much. Youth must learn how to handle different situations online and develop healthy Internet practices. Through experience, many youth are able to work out how to navigate networked media in a productive manner. They struggle, like all of us, to understand what privacy and identity mean in a networked world. They learn that not everyone they meet online has their best intentions in mind, including and especially their peers. As with traditional public spaces, youth gain a lot from adult (as well as peer-based) guidance. Both formal and informal learning settings help youth develop techniques for living in a mediated environment.

Privacy, Publicity, and Reputation.

Adults worry, often, that young people share too much information about themselves online. Adults tell us, as researchers, that they fear that "kids don't care about their privacy." The fear is that young people are doing themselves harm by leaving tracks that others can follow online. As a society, we fret over an erosion of the reasonable expectation of privacy in the online environment. Public outcry greets even modest changes in the privacy policy and terms of service at large social network sites such as Facebook. These privacy issues appear cheek by jowl with issues of reputation, trust, and credibility in the lives of young people. Here, too, the perception about young people as invariably sharing too much information without a corresponding sense of obligation to one another is not matched by the data collected by social scientists in the field. The research suggests something quite different: many youth do care about privacy and their personal reputations. But often, these youth do not have sufficient skills and tools to keep private from others that which they wish to protect. Furthermore, what they wish to keep private is often different than what adults believe they should keep private. There is also a broad range of views among youth about privacy, just as there is among adults. The issues of privacy and information disclosure online do not break neatly along generational lines. Finally, there are plenty of youth – and adults – who recognize that much can be gained from being in public; such youth are constantly assessing whether or not the opportunities of publicity outweigh the potential consequences. When thinking about privacy, we must also account for the opportunities presented by public participation.

Information Dissemination, Youth-Created Content and Quality of Information.

Along with safety and privacy concerns, fears about the effect of widespread copyright infringement often take center stage when we as a society discuss issues related to youth and online media. The concern is, at its core, a legitimate one: young people often don't pay for the copyrighted materials that they enjoy. There is, however, an equally important topic that rests alongside copyright piracy, which is the series of rights that young people (and all of us, for that matter) have to remix digital cultural objects as part of legitimate, lawful expression. The copyright piracy conversation tends to overshadow the conversation about the positive, creative things that young people are doing in the context of digital media. At the same time, we pay too little attention to the quality and credibility of online information and the skills our children are learning (or not learn) to discern the difference between trustworthy information and falsehoods that they encounter in digital spaces.

While the Internet provides tremendous opportunities for self-directed learning and creative expression, the new conditions and routines under which information, knowledge, and entertainment are produced, distributed, and accessed highlight the constitutive role of users when it comes to content quality, both in their capacity as (active) recipients of information and creators of content. This increased responsibility poses a series of challenges to children who do not have the same skills as adults to make a broad range of quality judgments that accompany these informational processes – limitations that are due to their respective stage of development and their limited set of life experience based on which content can be evaluated. Carefully designed media literacy programs (as elements of a media literacy curriculum) may provide strategies that help young users to deal with these quality-oriented challenges.

This inquiry is a terrific opportunity for the Commission to promote the exchange of ideas, celebrate innovative strategies that are already working, and encourage further research into the risks and benefits of the way that youth interact with electronic media, with information, and with one another in those areas where today we know too little. We respond to specific issues raised by the Commission below with a view toward drawing in the research in our three areas of focus.

II.   Responses to Areas of Practice Identified in the NOI.

A. Media Use by Young People.

As the Commission observed in its NOI, the use of electronic media has led to transformations in learning, socializing, and communications practices among youth – many of which are overwhelmingly positive. Since technologies and youth practices change rapidly, we can, at best, take a "snapshot of a moving target."[2] As difficult as this research task is, we do know several important things about current youth media practice. First, young people as a group are using media, and digital media in particular, more than ever before.[3] Many youth use multiple media at the same time, a practice called multitasking or switch-tasking.[4] Among young people born after roughly 1980,[5] activities like content generation, remixing, collaboration, and sharing are important aspects of daily life.[6] Many of these activities are "friendship-driven": most youth interact online with people they already know from their offline lives, using the Internet to maintain existing

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[2] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[3] Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). Generation M2: Media in the Lives of 8- to 18- Year-Olds. *A Kaiser Family Foundation Study*. (available at http://www.kff.org/entmedia/upload/8010.pdf)

[4] Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). Generation M2: Media in the Lives of 8- to 18- Year-Olds. *A Kaiser Family Foundation Study*. (available at http://www.kff.org/entmedia/upload/8010.pdf) ; Gasser, U., & Palfrey, J. G. (2009). Mastering Multitasking. *Educational Leadership*, *66*(6), 14-19.

[5] Palfrey, J., & Gasser, U. (2008). *Born Digital: Understanding the first generation of digital natives.* New York: Basic Books.

[6] Ito, M., Horst, H. A., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., et al. (2008). Living and learning with new media: Summary of findings from the digital youth project. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning.* (available at http://www.macfound.org/atf/cf/%7BB0386CE3-8B29-4162-8098-E466FB856794%7D/DML_ETHNOG_WHITEPAPER.PDF)

relationships.[7]   Other activities are "interest-driven": opportunities to develop expertise in specialized skill areas, like animation or blogging. In either context, the casual use of new media is an important way to develop social and technological skills.[8]

Though we often generalize about youth media practice in America, it is important to note that not all children are "born digital".[9] Not all forms of Internet access are equal; the "digital divide" still limits opportunities for many youth, especially those in lower socioeconomic brackets. Youth who do not have access to the Internet at home may be missing out on opportunities to develop important social and technical skill sets. Youth who do not have the opportunity to develop familiarity and confidence with electronic media may have trouble navigating social interactions in online communities or recognizing biased, unreliable information, placing themselves at increased risk. Access alone does not guarantee parity in experience. Youth who depend on computers in libraries and schools, which often use one-size-fits-all filtration software, may be unable to access certain sites and services at all, placing them at a disadvantage compared to peers with better access. Many youth, likewise, rely upon mobile devices rather than fixed line connections with faster speeds. The notion of the participation gap, between those with sophisticated skills to use digital media and those without, has been developed in detail both theoretically and through empirical data by researchers including Henry Jenkins and Eszter Hargittai.[10]

B. Benefits of Electronic Media for Youth

The full picture of how electronic media are changing learning and socializing is still emerging. One challenge associated with research in this area is that we are only now observing children who have grown up with email, social network sites, cell phones, and other technologies. It is clear, however, that engagement with electronic media has great educational potential. A recent ethnographic study examined peer-based learning practices among youth, and found that electronic media provide the opportunity for intense, self-directed, interest-driven study. [11] "Geeking out" -

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[7] boyd, d. (2008). *Taken Out of Context: American Teen Sociality in Networked Publics*. Doctoral Dissertation, University of California, Berkeley. ; Palfrey, J., & Gasser, U. (2008). *Born Digital: Understanding the first generation of digital natives.* New York: Basic Books.

[8] Ito, M., Horst, H. A., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., et al. (2008). Living and learning with new media: Summary of findings from the digital youth project. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning.* (available at http://www.macfound.org/atf/cf/%7BB0386CE3-8B29-4162-8098-E466FB856794%7D/DML_ETHNOG_WHITEPAPER.PDF)

[9] Palfrey, J., & Gasser, U. (2008). *Born Digital: Understanding the first generation of digital natives*. New York: Basic Books.

[10] Jenkins, H., Purushotma, R., Clinton, K., Weigel, M., & Robinson, A. J. (2006). Confronting the Challenges of Participatory Culture: Media Education for the 21st Century. An occasional paper on digital media and learning. The John D. and Catherine T. *MacArthur Foundation.* (available at http://digitallearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9C-E807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF) ; Hargittai, E. & Hinnant, A. (2008). Digital Inequality: Differences in Young Adults' Use of the Internet. *Communication Research*, *35*(5), 602-621. (available at http://webuse.org/pdf/HargittaiHinnant-DigitalInequality2008.pdf) ; Hargittai, E. & G. Walejko. (2008). The Participation Divide: Content Creation and Sharing in the Digital Age. *Information, Communication and Society*. *11*(2)**,** 239-256. (available at http://webuse.org/pdf/HargittaiWalejko-ParticipationDivide2008.pdf)

[11] Ito, M., Horst, H. A., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., et al. (2008). Living and learning with new media: Summary of findings from the digital youth project. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning.* (available at http://www.macfound.org/atf/cf/%7BB0386CE3-8B29-4162-8098-E466FB856794%7D/DML_ETHNOG_WHITEPAPER.PDF)

developing specialized expertise and sharing it with others – in many respects does not resemble traditional classroom-based education. Yet it fosters important technological and social skills, including confidence, leadership, and communication. Youth also benefit from socializing in digitally mediated environments, learning the social skills necessary to participate in creative and collaborative work environments.[12] As we seek to protect youth from the unforeseen risks of online engagement, it is essential that we do not in turn foreclose the benefits made possible by self-directed, informal learning and socializing through new technologies or experimentation with teaching using new technologies in the classroom.

There have been few large-scale studies of how children integrate electronic media with traditional schoolwork. Most of the studies to date focus on college students, a readily accessible population which poses fewer methodological challenges than young children. According to one such study, most college students use Google, Wikipedia, and friends for everyday life research; for course research, the most-used resources are course materials, Google, and scholarly databases.[13] While students welcome online access to library resources, their frustrations and challenges include narrowing down topics, sorting through results to find relevant resources, and assessing the credibility of sources. Some critics are concerned that the widespread practice of media multitasking impairs effective learning.[14] These observations underscore the need for more effective media literacy education, which we discuss in greater detail below.

Educational content in digital formats is often disorganized, decentralized, and difficult to find. Children and parents need assistance in locating reliable, age-appropriate educational content. It is unclear whether there is enough quality educational content out there for different age levels, for non-English speakers, or for children with disabilities or special needs. To assist parents in finding and selecting appropriate content, the non-profit organization Common Sense Media provides age and quality ratings for websites and video games.[15] The Commission should investigate whether such rating and indexing systems could help parents and children navigate online content more effectively and safely.

Experience with television and film ratings has shown that in order for ratings to be useful to parents, they must be clear and consistently applied.[16] However, the diversity of online platforms – from social network sites to blogs to gaming environments – would make implementing a clear, consistent rating system challenging. In addition, the dynamic, constantly updated nature of websites, coupled with ongoing user-generated contributions like comments or reviews, raise questions about the stability of ratings over time. As electronic media have diversified, old ratings systems may no longer be a good model. We encourage the Commission to invite input from researchers on the elements of online media (such as age-appropriateness, categories of problematic content, accuracy, credibility, interactivity, accessibility, information disclosure

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[12] Ito, M., Baumer, S., Bittani, M., boyd, d., Cody, R., Herr-Stephenson, B., et al. (2009). *Hanging Out, Messing Around, and Geeking Out: Kids Living and Learning with New Media*. Cambridge: MIT Press. (available at http://www.mwsmediapodcasts.com/media/documents/digitalyouth/hangingoutmessingaroundgeekingout .pdf)

[13] Head, A. J., & Eisenberg, M. B. (2009). LESSONS LEARNED: *How College Students Seek Information in the Digital Age* (Project Information Literacy Progress Report). Washington: The Information School, University of Washington. (available at http://www.projectinfolit.org/)

[14] Gasser, U., & Palfrey, J. G. (2009). Mastering Multitasking. *Educational Leadership*, *66*(6), 14-19.

[15] See http://www.commonsensemedia.org/website-reviews

[16] Federal Communication Commission (2009). *Implementation of the Child Safe Viewing Act; Examination of Parental Control Technologies for Video or Audio Programming*. Washington, DC.

requirements, security, moderation and community standards) relevant to creating clear, consistent rating and indexing systems for parents and educators.

Technology can generally improve educational curricula by enabling instructors to address individualized needs. Technologies can also help to support new and enhanced pedagogies to provide multiple avenues for expression, engagement, and content presentation.[17] Some promising recent efforts have focused on harnessing gaming interfaces to supplement curricula.[18]

Technology can also play a crucial role in making information more accessible to youth with disabilities. For example, mobile devices (such as cell phones and smartphones) can facilitate communication between hearing impaired students and their teachers and classmates.[19] Assistive technologies can and should go beyond basic accessibility, so students have an educational experience that is not merely adequate, but enhanced. Too often, concerns raised by market participants, including copyright interests, stand in the way of sound new teaching practices to help all young people learn. Likewise, fears around communication technologies often get in the way of educational opportunities. Research suggests that interventions involving computer-mediated communication can help those on the autism spectrum learn necessary social skills[20], but only if educators are empowered to use such tools. The work of CAST is exemplary in terms of translating research into proposed means of using digital technologies to improve learning for all students.

Within the federal government, efforts to comply with Section 508 have increased the availability of captions, alt-text, and so on, but have not favored innovative approaches to accessibility.[21] Individual agencies appear to be deploying isolated and inefficient fixes to make their web content accessible. The Commission ought to consider whether it could lead coordinated, government-wide efforts to standardize and improve accessibility, including better technological solutions to meeting the requirements of Section 508.

C. Risks of Electronic Media for Children

High-profile fears associated with the Internet include sexual solicitation, online harassment, and exposure to problematic content. These risks are not new, although they may need to be approached differently in the online context. Research studies do not show an increase in overall sexual predation as a result of new media usage among young people. Though the context for encounters between predators and their victims has changed in some ways, the youth most at risk of online harms are still those at risk of offline harms, such as victims of sexual or physical abuse, or children in unstable homes. The popular conception of a predator as an older man preying on a child also obscures the reality that most sexual solicitation of minors is by other minors and young

[17] See http://www.cast.org/ ; See http://www.udlcenter.org/aboutudl/udlguidelines/introduction

[18] Gee, J. P. (2007). *What video games have to teach us about learning and literacy*, 2nd. ed. New York: Palgrave/St. Martin's.

[19] Grey, T., Silver-Pacuilla, H., Overton, C., & Brann, A. (2010). *Unleashing the power of innovation for assistive technology.* Washington, DC: American Institutes for Research.

[20] Burke, M., Kraut, R., & Williams, D. (2010). Social use of computer-mediated communication by adults on the autism spectrum. *Proceedings of the ACM Conference on Computer-Supported Cooperative Work (CSCW).* (available at http://www.thoughtcrumbs.com/publications/Burke_CSCW2010_CMC_and_Autism.pdf)

[21] Federal Web Managers Council (2008). *Putting Citizens First: Transforming Online Government.* A White Paper Written for the 2008 – 2009 Presidential Transition Team White paper. (available at http://www.usa.gov/webcontent/documents/Federal_Web_Managers_WhitePaper.pdf) ; Jaeger, P. T. (2006). Assessing Section 508 compliance on federal e-government Web sites: A multi-method, user-centered evaluation of accessibility for persons with disabilities. *Government Information Quarterly, 23*(2), 169-190*.*

adults and most Internet initiated sex crimes against minors involves young adults and minors who believe that they are able to consent to sex with an adult. Resolving the differences between popular conceptions and actual incidents is necessary for effective interventions.[22]

Many studies point to growth in online peer-to-peer harms like bullying and harassment (with wide variation in definitions of "bullying" and specific findings depending on methodologies employed), but studies also continue to highlight that minors feel as though bullying is more common and psychologically harmful at school.[23] This suggests that what is different today is not the frequency or intensity of bullying, but its visibility to adults.[24] The visibility of bullying content generates fear, but it also introduces new opportunities for interventions.

Young people continue to be able to access – and create – potentially harmful information, which is especially an issue of concern when combined with insufficient media literacy among certain groups of youth. The best way to address these issues is through strategies that empower both youth and adults and broad-based education efforts. There remain areas where future research is needed, including further studies of mobile Internet use, youth created content, peer-to-peer harassment and sexual solicitation, and the rise of youth-generated problematic content.[25]

Peer-to-peer harms

While fears of adult predators using online social network sites to victimize children are widespread, research studies suggest that these fears are often misplaced. Reported cases of Internet-initiated sex crimes involving strangers are much less common than crimes initiated by family or known adults.[26] Among prosecuted sex crimes, only a small percentage of youth were deceived by adult offenders lying about their age.[27] Cyberstalking by adult offenders appears to be very rare; most online sexual solicitation is peer-to-peer, by youth and young adults.[28]

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[22] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[23] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[24] boyd, d. (2009). Do you See What I See?: Visibility of Practices through Social Media. *Supernova* and *Le Web.* San Francisco and Paris, 1 and 10 December 2009. (available at http://www.danah.org/papers/talks/2009/SupernovaLeWeb.html)

[25] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[26] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[27] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the*

Another area of concern is youth-generated sexual content. In a recent study, 4% of cell phone-owning American teens between 12 and 17 reported "sexting": sending sexually suggestive nude or nearly nude images of themselves to someone else, usually a romantic interest, via text message.[29] 15% of cell-owning American teens between 12 and 17 have received sexually suggestive nude or nearly nude images via text message. A 2008 study found that about 1 in 5 U.S. teens between 13 and 19 reported sending a sexually suggestive picture or video of themselves to someone else by email, cell phone or other mode, and 31% had received a suggestive picture from someone else.[30]

Parental supervision does not seem to reduce the incidence of sexting. A recent study found that "teens whose parents said they looked at the contents of their child's cell phone were no more or less likely to send or receive nude or nearly nude images on their phones."[31] However, restrictions on the number of text messages teens had in their mobile plans was correlated with a lower incidence of sexting, suggesting that this practice may increase as more teens grow comfortable with the new technologies.

Teen attitudes about sexting vary widely.[32] Some youth do not think it is a big deal; some even see sexting as a safer alternative to sex. Others are concerned about potential social repercussions or legal consequences. In some cases, youth have been subject to criminal charges for sexting. In these cases, law enforcement offices apply laws intended to combat child pornography, thereby victimizing the very same minors the laws seek to protect. This is particularly problematic given that some minors engage in sexting because of peer pressure.

Another major area of concern is online harassment or cyberbullying. The definition of "bullying" is one of the complicated factors in this particular debate, as much turns on how questions are framed to research subjects. As a simple definition, bullying includes those acts designed to threaten, embarrass or humiliate youth.[33] The dynamics between bullying that occurs offline are often very

Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[28] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[29] Lenhart, A. (2009). *Teens and Sexting: How and why minor teens are sending sexually suggestive nude or nearly nude images via text messaging*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2009/PIP_Teens_and_Sexting.pdf

[30] The National Campaign to Prevent Teen and Unplanned Pregnancy. (2008). *Sex and Tech: Results from a Survey of Teens and young Adults*. (available at http://www.thenationalcampaign.org/sextech/PDF/SexTech_Summary.pdf)

[31] Lenhart, A. (2009). *Teens and Sexting: How and why minor teens are sending sexually suggestive nude or nearly nude images via text messaging*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2009/PIP_Teens_and_Sexting.pdf

[32] Lenhart, A. (2009). *Teens and Sexting: How and why minor teens are sending sexually suggestive nude or nearly nude images via text messaging*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2009/PIP_Teens_and_Sexting.pdf

[33] Lenhart, A. (2007). *Cyberbullying*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2007/PIP%20Cyberbullying%20Memo.pdf.pdf ; Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the*

similar to the dynamics we observe online. For instance, cyberbullying appears similar in prevalence to offline bullying.[34] Online harassers, like offline harassers, are usually approximately the same age as their victims. The range of results in terms of our commonplace cyberbullying is demonstrate the difficulty and importance of defining terms. Studies show that between 4% and 46% of youth report being cyberbullied, depending on the definition used.[35] Between 11% and 33% of minors admit having harassed others online.[36] Nearly 43% of middle-school youth have experienced victimization consistent with cyberbullying.[37] Contrary to popular perception, cyberbullies are rarely anonymous. Recent studies suggest the majority of online bullying victims know their perpetrators.[38] About half of victims report being harassed by a fellow student.[39]

Unfortunately, victims of online harassment may also be perpetrators.[40] Depression and suicidal thoughts appear more common among youth who have been cyberbullied.[41] It seems that the youth most at risk of cyberbullying or other online harms are also those at risk of offline harms, such as children who have experienced sexual or physical abuse or those in poor home environments.[42]

Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[34] Lenhart, A. (2007). *Cyberbullying*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2007/PIP%20Cyberbullying%20Memo.pdf.pdf

[35] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[36] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[37] Hinduja, S., & Patchin, J. (2009). *Bullying Beyond the Schoolyard: Preventing and Responding to Cyberbullying*. Thousand Oaks, CA: Sage.

[38] Hinduja, S., & Patchin, J. (2009). *Bullying Beyond the Schoolyard: Preventing and Responding to Cyberbullying*. Thousand Oaks, CA: Sage.

[39] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[40] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[41] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[42] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys*

There is a broad range of approaches to online safety for youth that can be effective, but no one approach will work on its own. In the final report of the Internet Safety Technical Task Force, issued in early 2009, we set forth a series of recommendations that bear repeating in this NOI response:

> The Members of the Internet community should continue to work with child safety experts, technologists, public policy advocates, social services, and law enforcement to: develop and incorporate a range of technologies as part of their strategy to protect minors from harm online; set standards for using technologies and sharing data; identify and promote best practices on implementing technologies as they emerge and as online safety issues evolve; and put structures into place to measure effectiveness. Careful consideration should be given to what the data show about the actual risks to minors' safety online and how best to address them, to constitutional rights, and to privacy and security concerns.

> To complement the use of technology, greater resources should be allocated: to schools, libraries, and other community organizations to assist them in adopting risk management policies and in providing education about online safety issues; to law enforcement for training and developing technology tools, and to enhance community policing efforts around youth online safety; and to social services and mental health professionals who focus on minors and their families, so that they can extend their expertise to online spaces and work with law enforcement and the Internet community to develop a unified approach for identifying at-risk youth and intervening before risky behavior results in danger. Greater resources also should be allocated for ongoing research into the precise nature of online risks to minors, and how these risks shift over time and are (or are not) mitigated by interventions. To allow for more systematic and thorough research, law enforcement should work with researchers to help them gather data on registered sex offenders' use of Internet technologies and technology companies should provide researchers with appropriately anonymized data for studying their practices.

> Parents and caregivers should: educate themselves about the Internet and the ways in which their children use it, as well as about technology in general; explore and evaluate the effectiveness of available technological tools for their particular child and their family context, and adopt those tools as may be appropriate; be engaged and involved in their children's Internet use; be conscious of the common risks youth face to help their children understand and navigate the technologies; be attentive to at-risk minors in their community and in their children's peer group; and recognize when they need to seek help from others.[43]

These recommendations from the ISTTF remain sound a year after we initially issued them. We urge the Commission to hold members of the Internet industry to the recommendations they participated in drafting through the ISTTF. To the extent that these recommendations are not being enacted, we urge the Commission to consider what role it might be able to play in making them happen in the interests of enhancing online safety for young people in America.

(pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[43] Internet Safety Technical Task Force (2008). *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys*. Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

Privacy

Parents are often concerned that their children share too much personal information online. They worry that potential predators could use that information to harass or harm children, either online or offline. Since data disclosed online are often persistent, searchable, and hard to delete, youth who behave too openly may suffer consequences in the future, when their personal information is used in unforeseen ways by potential employers, educational institutions, or other parties.[44] These fears, though widespread, are generally not borne out in the research.

However, there are real concerns facing youth and their privacy in a digital age. Youth are subject to a great deal of surveillance, online and offline; their activities are frequently monitored by parents and other adults in ways that they perceive violate their privacy; and information about them is consistently collected and subject to exploitation by marketers seeking to sell them things. We are in the midst of a comprehensive review of research into youth practices with respect to new media, privacy, and reputation.[45]

Most studies show that youth do in fact "care about privacy." Their practices related to revealing information can be different from the patterns of their parents and grandparents, but not necessarily in the ways that adults believe. What studies demonstrate on this score is that both youth and adults have a range of concerns about privacy. Some children and teens do show less concern than adults about their privacy online, although the data are inconclusive on this score. But studies also show that teens, in fact, are often *more* vigilant than adults in terms of privacy-protecting behaviors, although they are more likely to engage in "less ethical" approaches like flaming and providing false information."[46] When youth are concerned about risk, they will engage in privacy-protective behaviors, such as adjusting their privacy settings, refusing to provide information, providing false information, or avoiding certain websites.[47] However, most youth (like most adults) do not read websites' privacy policies or practices, and may be unaware when their information is at risk of disclosure to third parties.[48] These findings put pressure on the notion that the current model of "notice and consent"- or "notice and choice"-style privacy protections in commercial web sites in fact are the most effective ways to empower Internet users to manage their personal information.

Young people tend to view the Internet as a social environment.[49] The relationships that youth maintain are not segmented between "online" and "offline." The social dynamics of friendship for

[44] boyd, d. (2007). Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning – Youth, Identity, and Digital Media Volume* (ed. David Buckingham). Cambridge, MA: MIT Press.

[45] Marwick, A. E., Murgia Diaz, D., & Palfrey, J. (2010). *Youth, Privacy and Reputation*. Unpublished Literature Review.

[46] Marwick, A. E., Murgia Diaz, D., & Palfrey, J. (2010). *Youth, Privacy and Reputation*. Unpublished Literature Review.

[47] Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, *43*(3), 389-418.

[48] Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, *43*(3), 389-418. ; Steeves, V., & Webster, C. (2008). Closing the Barn Door: The Effect of Parental Supervision on Canadian Children's Online Privacy. *Bulletin of Science, Technology & Society, 28*(1), 4-19.

[49] boyd, d. (2008). *Taken Out of Context: American Teen Sociality in Networked Publics*. Doctoral Dissertation, University of California, Berkeley. ; Ito, M., Horst, H. A., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G.,

many youth make the sharing of information online a part of a coherent sense of identity. Most youth interact online with people they already know offline. On the other hand, some youth report chatting with strangers online, especially while playing online games.[50] Youth tend to focus more on the potential benefits of information disclosure than they do on potential harms.[51] Studies of 12-year-olds and older teens have found that youth take a "risk-benefit" approach to sharing information, becoming more willing to disclose if they anticipate benefits from sharing.[52] For many young people, being part of popular online social network sites carries meaningful social benefits. [53]

The context in which information is solicited or shared is very important. Youth often don't see information as strictly "public" or "private" in a binary sense of "on" or "off." They distinguish between different levels of privacy; for example, on the popular social network site Facebook, youth may divide friends into different groups, to which in turn they may grant access to different types of information. Youth may share passwords with friends for perceived social benefits[54] while simultaneously expressing concern about keeping their online activities private from parents.[55] A recent study observed that "youth see benefits in sharing information online, but among peers rather than with adults in their lives."[56]

However, differences in privacy attitudes are not simply generational. Attitudes toward privacy and reputation also vary considerably among youth themselves. Age, gender, and Internet experience are important variables; research indicates that the most Internet-savvy, experienced users were the most concerned about privacy, and the most likely to take privacy-protecting

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et al. (2008). Living and learning with new media: Summary of findings from the digital youth project. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning.* (available at http://www.macfound.org/atf/cf/%7BB0386CE3-8B29-4162-8098-E466FB856794%7D/DML_ETHNOG_WHITEPAPER.PDF)

[50] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[51] Santo, R., James, C., Davis, K., Lee Katz, S., Burch, L., & Joseph, B. (2009). *Meeting of Minds: Cross-Generational Dialogue on the Ethics of Digital Life*. A report in collaboration of Global Kids, Common Sense Media & GoodPlay Project at Harvard University. (available at http://www.macfound.org/atf/cf/%7Bb0386ce3-8b29-4162-8098-e466fb856794%7D/DML-FOCUS-DIALOGUE-REPORT-0910.PDF)

[52] Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, *43*(3), 389-418. ; Youn, S. (2005). Teenagers' Perceptions of Online Privacy and Coping Behaviors: A Risk–Benefit Appraisal *Approach. Journal of Broadcasting & Electronic Media*, *49*(1), 86-110.

[53] boyd, d. (2007). Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning – Youth, Identity, and Digital Media Volume* (ed. David Buckingham). Cambridge, MA: MIT Press.

[54] Steeves, V., & Webster, C. (2008). Closing the Barn Door: The Effect of Parental Supervision on Canadian Children's Online Privacy. *Bulletin of Science, Technology & Society, 28*(1), 4-19.

[55] West, A., Lewis, J., & Currie, P. (2009). Students' Facebook 'friends': public and private spheres. J*ournal of Youth Studies*, *12*(6), 615-627.

[56] Santo, R., James, C., Davis, K., Lee Katz, S., Burch, L., & Joseph, B. (2009). *Meeting of Minds: Cross-Generational Dialogue on the Ethics of Digital Life*. A report in collaboration of Global Kids, Common Sense Media & GoodPlay Project at Harvard University. (available at http://www.macfound.org/atf/cf/%7Bb0386ce3-8b29-4162-8098-e466fb856794%7D/DML-FOCUS-DIALOGUE-REPORT-0910.PDF)

steps.[57] When youth are aware of and concerned about risk, they engage in protective behaviors like refusing to provide information, providing false information, or avoiding certain websites.[58] However, youth are not always concerned about risk when they should be. And many adults demonstrate the same information sharing practices as youth.

Youth also vary in terms of their behavior related to certain types of personal information. Studies have found that teens share email addresses and passwords with one another,[59] possibly in order to demonstrate trust or to get technical help with accounts.[60] Social network sites require the disclosure of certain information,[61] but studies suggest many public profiles are incomplete. Public information often includes first names, photos, and information about interests, but surnames, phone numbers, and addresses are shared less frequently.[62] Teenagers sometimes intentionally lie about their information, often because they believe that inaccurate information is necessary for online safety.[63] One study shows that females are more likely to have private profiles than males.[64] Most relevant studies have looked at social network site practices among college students; supplementary research on younger children is needed to discover what information they typically share. In addition to profile information and passwords, youth commonly share user-created content like photos, videos, or blog entries (59% of all teens share user-created content).[65]

Social network sites require sharing at least some personal information,[66] but the choice of what information to disclose is part of the dynamic process of defining identity for young people.[67]

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[57] Grant, I.C. (2006). *Online Privacy: An Issue for Adolescents*. In Proceedings of the Child and Teen Consumption Conference. Copenhagen.

[58] Marwick, A. E., Murgia Diaz, D., & Palfrey, J. (2010). *Youth, Privacy and Reputation*. Unpublished Literature Review. ; Youn, S. (2009). Determinants of Online Privacy Concern and Its Influence on Privacy Protection Behaviors Among Young Adolescents. *The Journal of Consumer Affairs*, *43*(3), 389-418.

[59] Steeves, V., & Webster, C. (2008). Closing the Barn Door: The Effect of Parental Supervision on Canadian Children's Online Privacy. *Bulletin of Science, Technology & Society, 28*(1), 4-19. ; Lenhart, A., Rainie, L., & Lewis, O. (2001). *Teenage Life Online: The Rise of the Instantmessage Generation and the Internet's Impact on Friendships and Family Relationships*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2001/PIP_Teens_Report.pdf.pdf

[60] boyd, d. (2008). *Taken Out of Context: American Teen Sociality in Networked Publics*. Doctoral Dissertation, University of California, Berkeley.

[61] Lenhart, A., & Madden, M. (2007). *Teens, Privacy and Online Social Networks*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/Reports/2007/Teens-Privacy-and-Online-Social-Networks.aspx

[62] Lenhart, A., & Madden, M. (2007). *Teens, Privacy and Online Social Networks*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/Reports/2007/Teens-Privacy-and-Online-Social-Networks.aspx

[63] boyd, d. (2008). *Taken Out of Context: American Teen Sociality in Networked Publics*. Doctoral Dissertation, University of California, Berkeley.

[64] Burgess-Proctor, A., Patchin, J., & Hinduja, S. (2009). Cyberbullying and online harassment: Reconceptualizing the victimization of adolescent girls. In *Female crime victims: Reality reconsidered*, edited by V. Garcia and J. Clifford. Upper Saddle River, NJ: Prentice Hall.

[65] Lenhart, A., Madden, M., & Smith, A. (2007). *Teens and Social Media*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/~/media//Files/Reports/2007/PIP_Teens_Social_Media_Final.pdf.pdf

[66] Lenhart, A., & Madden, M. (2007). *Teens, Privacy and Online Social Networks*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/Reports/2007/Teens-Privacy-and-Online-Social-Networks.aspx

[67] Palfrey, J., & Gasser, U. (2008). *Born Digital: Understanding the first generation of digital natives.* New York: Basic Books.

Research shows that youth do not always understand and use the current generation of privacy-protecting tools on social network sites.[68] Some studies suggest that children may be more likely than adults to restrict access to their information on social network sites.[69] However, if privacy settings are too complex, they may confuse or turn off youth (and adults) and render themselves without utility.

The participation gap, between the most sophisticated Internet users and the most naïve, is extremely important in this context. Youth who are less Internet-savvy – younger children, or teens without home Internet access – might be expected to have the most trouble negotiating privacy settings, and thus be at increased risk of unwitting public disclosure of personal information. While privacy settings should be complex enough to permit granular control of personal information within one's various networks and friend groups, social network hosts should also take responsibility for making these controls easier to find, understand, and use. Help should be provided, especially for younger users, and there should be a straightforward and transparent way to identify what profile information is publicly available. Social network site providers should also allow users to access what information is kept about them, how it is used, and who can see it. Social network site providers should set privacy defaults that favor increased security for personal information, so that the least sophisticated users are protected from unwanted information disclosure.

Parents should be aware that discussing media content with their children (during web-surfing or afterward) can be an effective strategy to reduce the amount of personal information disclosed – more so than simply prohibiting or limiting children's access.[70] Teens whose parents monitor or participate in their Internet use are more concerned about privacy than those who do not.[71] However, youth also may perceive monitoring by parents as a violation of their privacy. [72] One recent study of parent-child pairs found that children were more resistant to protective strategies involving parental monitoring and co-viewing than they were to user empowerment strategies, or even some forms of government or industry protection.[73] Resources to help parents understand

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[68] Debatin, B., & Lovejoy, J. P. (2009). Facebook and Online Privacy: Attitudes, Behaviors, and Unintended Consequences. *Journal of Computer-Mediated Communication*, *15*, 83–108.
[69] Lenhart, A., Madden, M., & Smith, A. (2007). *Teens and Social Media*. Pew Internet & American Life Project. Retrieved December 29, 2009 from
http://www.pewinternet.org/~/media//Files/Reports/2007/PIP_Teens_Social_Media_Final.pdf.pdf
[70] Lwin, M. O., Stanaland, A. J. S., & Miyazaki, A. D. (2008). Protecting children's privacy online: How parental mediation strategies affect website safeguard effectiveness. *Journal of Retailing*, *84*(2), 205–217. ; Youn, S. (2008). Parental Influence and Teens' Attitude toward Online Privacy Protection. *The Journal of Consumer Affairs*, *42*(3), 362-388. ; Marwick, A. E., Murgia Diaz, D., & Palfrey, J. (2010). *Youth, Privacy and Reputation*. Unpublished Literature Review.
[71] Moscardelli, D.M., & Divine, R. (2007). Adolescents' Concern for Privacy When Using the Internet: An Empirical Analysis of Predictors and Relationships With Privacy-Protecting Behaviors. *Family and Consumer Sciences Research Journal*, *35*(3), 232-252.
[72] Ito, M., Horst, H. A., Bittanti, M., boyd, d., Herr-Stephenson, B., Lange, P. G., et al. (2008). Living and learning with new media: Summary of findings from the digital youth project. *The John D. and Catherine T. MacArthur Foundation series on Digital Media and Learning.* (available at
http://www.macfound.org/atf/cf/%7BB0386CE3-8B29-4162-8098-
E466FB856794%7D/DML_ETHNOG_WHITEPAPER.PDF) ; West, A., Lewis, J., & Currie, P. (2009). Students' Facebook 'friends': public and private spheres. J*ournal of Youth Studies*, *12*(6), 615-627.
[73] Byrne, S., Lee, T., Linz, D., McIlrath, M., & Yao, M. (2010). Parents versus Child Reports of Internet Behaviors & Support for Strategies to Prevent Negative Effects of Online Exposure. Results presented at The Berkman Center for Internet & Society at Harvard University, December 15th, Cambridge, MA. (available at
http://cyber.law.harvard.edu/interactive/events/luncheons/2009/12/byrne)

the ever-changing and complicated privacy settings used by websites like Facebook can be very constructive,[74] but parents should be advised that filtering and monitoring strategies can backfire by undermining the trust of their children, especially as they grow older.

Based upon this research, our primary recommendations with respect to the privacy concerns of youth online include five elements. First, we need to understand the manner in which youth are engaging in life in a digital era, both online and offline, and how they think about the concepts of public and private. What is "public" and what is "private" for youth has not changed overnight as a result of the advent of social network sites. But a great deal of social life for youth is occurring in networked public spaces, which means that a great deal of information about youth as they go about everyday life is recorded, whether through their active disclosure or otherwise. Second, adults need to acknowledge and take responsibility for their roles in violating young people's privacy, especially in ways that can backfire. Third, we should emphasize teaching media literacy skills relating to privacy in a digital era in a manner that is not focused on scare tactics. Fourth, private companies that hold a great deal of information about young people need to emphasize software design that makes privacy settings and rules easier to adjust and to understand. Fifth, as a matter of public policy, we need to rethink the dominant "notice and choice" and self-regulatory framework for data held in digital forms about youth in particular to ensure a greater level of user control over and awareness of personally identifiable information over the long term.

Problematic Information

Electronic media provide youth with access to a variety of problematic, potentially harmful information, including pornography, violent media, violent video games, hate speech, discussions of self-harm and drug use.[75]

When it comes to sexual content, the Internet does increase the risk of unwanted (accidental or inadvertent) exposure to sexual material, mainly among older youth.[76] As one study showed, "before development of the Internet, there were few places youth frequented where they might encounter unsought pornography regularly."[77] Nonetheless, a 2005 study found that seventh and eighth graders reported that they were more likely to encounter nudity through TV and movies

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[74] After Facebook revised its privacy controls in the fall of 2009, Common Sense Media provided a guide for parents confused by the new settings:
http://www.commonsensemedia.org/new-facebook-privacy-settings-what-parents-need-know
[75] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at
http://cyber.law.harvard.edu/pubrelease/isttf/)
[76] Wolak, J., Mitchell, K., & Finkelohr, D. (2006). Online Victimization of Youth: Five Years Later. National Center for Missing & Exploited Children. (available at
http://www.missingkids.com/en_US/publications/NC167.pdf) ; Wolak, J., Mitchell, K., & Finkelohr, D. (2007). Unwanted and Wanted Exposure to Online Pornography in a National Sample of Youth Internet Users. *PEDIATRICS*, *119*(2), 247-257. (available at http://www.pediatrics.org/cgi/content/full/119/2/247)
[77] Wolak, J., Mitchell, K., & Finkelohr, D. (2007). Unwanted and Wanted Exposure to Online Pornography in a National Sample of Youth Internet Users. *PEDIATRICS*, *119*(2), 247-257. (available at
http://www.pediatrics.org/cgi/content/full/119/2/247)

than through the Internet.[78] Violence is another area of concern, particularly violent video games. Both the game content and the gaming community contribute: nearly half of game-playing teens report other gamers behaving in a hateful, racist, or sexist manner.[79] So far, little is known about how youth are exposed to or encouraged to participate in hate speech and self-harm as a result of online exposure to websites, chat, gaming, and so forth.[80]

Other important questions include whether access to online content (drug-related, sexual, violent, etc.) promotes unhealthy, age-inappropriate, and/or illegal behaviors, and whether pervasive inaccuracy and bias in online health information compromises youth health. Youth seek health information online less frequently than adults, but such searches seem likely to involve sensitive questions about sexuality, sex, or drugs, which they are not comfortable bringing up with parents or other adults. These questions connect to privacy, as well. In a digital era, the privacy interests of readers – or, more broadly, those who access information – are not as clearly protected as they were in the era where librarians oversaw much of the collection and (rare) dissemination of information about who was reading what.

Advertising

Online advertising – banner ads, popups, adwords, spam comments and emails – is an inescapable part of using electronic media. This raises an important question: can young people distinguish advertising from non-commercial content? While early research[81] suggested children could not reliably identify advertising content, more recent work has suggested that youth may be savvy enough to spot the ads.[82] But even as children become increasingly familiar with the Internet, advertisers become better at blurring the boundaries between commercial and noncommercial content, and embedding persuasive messages in social network sites, advergames, and branded online environments intended for younger and younger children. So far, there is insufficient research to predict whether this blurring might yield different outcomes for youth than ads rendered through traditional media, such as television commercials.

Effectiveness of Content Control Technologies and Protective Strategies

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[78] Pardun, C. J., L'Engle, K. L., & Brown, J. D. (2005). Linking Exposure to Outcomes: Early Adolescents' Consumption of Sexual Content in Six Media. *Mass Communication & Society, 8*(2), 75–91. (available at http://teenmedia.unc.edu/pdf/Mass.pdf)

[79] Lenhart, A., Kahne, J., Middaugh, E., Macgill, A. R., Evans, C., & Vitak, J. (2008). *Teens' gaming experiences are diverse and include significant social interaction and civic engagement*. Pew Internet & American Life Project. Retrieved December 29, 2009 from http://www.pewinternet.org/Reports/2008/Teens-Video-Games-and-Civics.aspx. ; Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[80] Schrock, A., & boyd, d. (2008). Online Threats to Youth: Solicitation, Harassment, and Problematic Content. In Internet Safety Technical Task Force, *Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force to the Multi-State Working Group on Social Networking of State Attorneys* (pp. 73-145). Durham, NC: Carolina Academic Press. (available at http://cyber.law.harvard.edu/pubrelease/isttf/)

[81] Henke, L.L. (1999). Children, advertising, and the Internet: An exploratory study. In D. Schumann & E. Thorson, eds. *Advertising and the World Wide Web (*pp. 73–80*)*. Mahwah, NJ: Lawrence Erlbaum Associates.

[82] Henke, L.L. (2002). After the Internet: A Third-Year Follow Up and Comparative Analysis of Children's Perceptions and Use of the Internet. *Proceedings of the Academy of Marketing Studies*, *7*(25).

As the Commission's CSVA Report[83] noted, no content control technology currently works across all media platforms. The proliferation of networked devices like smartphones, DVRs, and gaming consoles has provided children with many routes to access potentially problematic content. Given the pace of innovation, it is difficult for parents to keep up with the variety of networked devices, much less a plethora of content control systems.

There are a number of reasons why content control technologies may be inadequate, including parental discomfort and unfamiliarity, a lack of solutions appropriate for specific age groups, ease of circumvention by children, and avoidance (by accessing the Internet through alternative devices like smartphones or gaming consoles). Despite these issues, parents are using filtering software and other content control technologies to restrict their children's use of the Internet. One recent study found that 86% of parents regulate Web use.[84] About half of teens' home computers have filtering software installed.[85] However, as with other media, parents may overestimate the effectiveness of their monitoring efforts. For example, parents consistently underestimate the amount of content their children post online.[86] There is often significant disagreement between parents and children about what the Internet house rules are, or whether there are rules at all. [87] And while parents see mobile phones as a way to exercise more control over their children, youth overwhelmingly see them as private.[88] In general, youth tend to resist parental oversight of their Internet use as unduly intrusive. Some studies suggest that youth may enjoy circumventing adult efforts to restrict or monitor their Internet usage.[89]

Industry actors employ a number of strategies to protect children from inappropriate content.[90] Parental consent requirements are easily evaded or faked, since the methods used are largely the

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[83] Federal Communication Commission (2009). *Implementation of the Child Safe Viewing Act; Examination of Parental Control Technologies for Video or Audio Programming*. Washington, DC.

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same as they were a decade ago.[91] One study found that while website safeguards were fairly effective for young children, older teens (between 15 and 17) experienced a "boomerang effect" and were more likely to try to evade the safeguards.[92] (This effect was somewhat mitigated by parental mediation.) On the other hand, the fear that many children evade parental controls to seek out problematic online content like pornography does not seem justified. For example, studies indicate that most children stumble across sexual content accidentally, and that such experiences are unwelcome.[93] To improve technology-based solutions and develop innovative, non-technology-based solutions, it is important to have an accurate understanding of how, why, when and where children use the Internet, what they are looking for, and where they are looking.

One of the keys to success is to determine content control technologies that parents and youth might agree to employ and to observe based upon mutual trust.[94] A recent survey of child/parent pairs (the children were between 10 and 17) suggests that there may be common ground. Unsurprisingly, youth are less supportive of protective strategies than parents, and resistant to strategies like surveillance or co-viewing.[95] These results are consistent with other studies showing that parents look more favorably than kids do on the practice of parents or teachers "friending" children on social network sites.[96] But youth were relatively supportive of government/industry protections, such as "if the people who make websites had to be sure no criminals got in touch with you." Youth and parents were also positive about user empowerment strategies, suggesting that educating children to make better decisions online may be an efficient way to reduce risk without incurring resistance from youth. Currently, several research groups are investigating children's attitudes toward online practices, including safety and privacy; such research will be important to developing appropriate user empowerment and media literacy training.[97]

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D. Media Literacy

While electronic media provide tremendous opportunities for self-directed learning and creative expression, they can also overwhelm youth with information that they may not have the skills or experience to evaluate. Media literacy skills are essential to making the most of the opportunities afforded by digital media in learning, but also in empowering youth to avoid the challenges they are most likely to confront in a digital era.

Studies show that the Internet has become the first stop for many youth when they are looking for information, knowledge, and entertainment. However, the forces at play that shape the quality of online content are significantly different from the forces of the traditional media landscape which was dominated by a relatively small group of professional content producers organized around commercial media enterprises and classic academic gate-keeping structures. Consequently, characteristics (e.g., the name of the author or the source) that were aimed at signaling certain key aspects of information quality such as credibility and reliability in the traditional media environment may no longer apply online.[98] While young users may feel confident using and searching the Internet, they are not necessarily well-equipped to evaluate what they find based on traditional quality indicators and proxies. Furthermore, because many adults are uncomfortable assessing the credibility signals presented online, many have attempted to project offline measures into online settings or simply demonize online content, thereby creating more confusion and misinformation among youth.

A comprehensive literature review as part of the Youth and Media Policy Working Group Initiative at the Berkman Center for Internet & Society at Harvard University is currently underway to gain a deeper understanding of the ways in which children browse content and/or search for information and evaluate the quality of what they find – and how these processes may be influenced if children are themselves active content creators. From this review, it is clear that more research is badly needed. Many studies focus on only a small fraction of the information process, such as evaluating the results of a web search or assessing the credibility of a particular site, but do not take into account that the quality of the result is importantly shaped by the process that leads to the particular result in the first place. Also, much of the research in the youth context has primarily focused on credibility, which is only one particular (albeit important) quality criteria among about 70 others, and carries particular assumptions about who creates and disseminates content under which conditions.[99]

Various strategies might be considered to address the information quality challenge that young users face. Educational strategies such as media literacy programs and technological tools are perhaps among the most promising approaches that are worth to be explored in greater detail. Specially designed and tailored tech-tools such as, for instance, kids-friendly browsers and search engines, peer-based recommendation systems, reputation mechanisms, quality ratings and certificates, or aggregators might serve as building blocks of a strategy aimed at empowering young

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users to make adequate quality assessments.[100]   However, it is also important to understand the limits of technology. Even if software can enhance the quality experience online, it seems unlikely that youth will embrace special search engines, social network sites and other kind of programs or platforms developed just for them. Experience shows that it is far more probable that children will seek out the websites and tools that adults use – the websites and tool that they would eventually graduate to using anyway, as they grow older. For that reason, web developers must take into account that children and teens are part of their audience. And structures must be put into place for both adults and youth to develop the critical media literacy skills necessary to assess quality in an evolving information landscape.

With or without dedicated tools, young users will benefit from media literacy skills that allow them to access, manage, integrate, evaluate, create, and communicate content at any point, using a variety of technological formats, in order to manage the unprecedented amount and range of quality of information available online. Media literacy skills overlap with safety skills. Youth need more support and more skills to develop their own, repeatable processes for assessing credibility and reliability of information in digitally-mediated environments. For instance, students need to be able to conduct effective web searches to reach the information they want, while avoiding unwelcome results.   Skills for assessing credibility and trustworthiness of both peers and information sources[101] may influence certain types of contact risks or the dynamic of cyberbullying. Given the importance of media literacy skills across a number policy issues, it seems sensible to strongly encourage schools to develop media literacy programs in order to prepare students for the various information-related challenges in the digital age. Media literacy should be a required part of the curriculum, well-integrated with other critical thinking skills, and taught in a developmentally appropriate manner, engaging adults (teachers, parents, etc.) and peers alike. Against this complex backdrop, we urge the Commission to help convene dialogues between educators, parents and researchers to further encourage the development and deployment of evidence-based, research-supported media literacy programs.

III.   Conclusion.

We thank the Commission for issuing this NOI and for prompting public dialogue on the important issues not just relating to how to get digital connectivity to all Americans, but also with respect to the important issues relating to how that connectivity is used. These issues affect both adults and youth in our country. There are legitimate special concerns that we have as parents, teachers, and lawmakers about youth media practices. At the same time, we ought to emphasize policies that help to take advantage of the tremendous opportunities afforded to youth through their use of new technologies.   The Commission is right to balance its efforts toward empowerment of parents and youth alongside strategies to protect youth from harms they may face, online and offline.

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[100] See also p. 5 regarding age and quality rating systems.
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