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The Future of Internet Safety Education: Critical Lessons from Four Decades of Youth Drug Abuse Prevention

Essay by Lisa M. Jones, June 14, 2010

(About this Essay)

Publicity about online "predators" has raised considerable alarm about the extent to which Internet activities put children and adolescents at risk for sexual abuse and exploitation. More recently, concerning media stories of cyberbullying victimization and "sexting" have added to parental and community worries about the potential risks of youth technology use.

In response, Internet safety education materials and programs have materialized rapidly. Websites have been established to educate children and parents about the dangers of Internet use (e.g., http://www.connectsafely.org; http://www.growing-up-online.com; http://www.safeteens.com; http://www.ikeepsafe.org; http://www.netsmartz.org; http://www.childnet.com; http://www.kids.getnetwise.org). Schools include Internet safety messages in health and computer education curricula. Law enforcement agencies have been active in delivering Internet safety programs to children and parents in their communities. These activities are likely to increase over the next decade: The Protecting Children in the 21st Century Act, signed into law by President Bush in 2008, requires schools with Internet access to educate children about appropriate online behavior[1]. Government and the technology industry are seeking ways to further reduce problematic Internet experiences for youth (see http://www.fosi.org; and http://www.ntia.doc.gov/advisory/onlinesafety). New legislation was introduced in 2009 to obtain further funding for the development and dissemination of Internet safety education[2, 3].

However, it is not clear what kinds of information are currently being delivered to youth and in what formats. Formal and informal programs are requested regularly by school and community leaders. A variety of presentation and classroom materials have been made available for use, with many communities developing their own materials. And the information offered to youth cover a range of topics: "Internet predators"; cyber-bullying and harassment; avoidance of pornography, violence, and hate sites; and sexual image production and distribution by youth or "sexting." Internet safety programs can include broader educational objectives as well, such as promoting youth "digital citizenship" (see http://www.commonsensemedia.org/digital-citizenship).

Unfortunately, there is no research evidence that compares the success of available programs, examines what materials or educational approaches are effective, or studies how programs are actually being implemented in communities. Outcome evaluations have been limited in sophistication and so far show no evidence that Internet safety programs reduce risky online behaviors by youth or prevent negative experiences. One of the most systematic outcome studies to date was funded in 2001 by the National Institute of Justice (NIJ) to evaluate an Internet safety program developed by i-SAFE (http://www.isafe.org). Researchers collected data from 12 treatment and 6 comparison schools through an online survey of children at six time points[4]. The results indicated that children successfully retained the knowledge presented to them, at least over the short-term; however, the learning did not consistently reflect research-based knowledge on risky Internet use, and there were no significant changes in the youths'

online behaviors. Other less rigorous evaluations have been conducted and similarly have found that while youth can retain Internet safety program messages in follow-up surveys, there is little apparent impact on children's behavior[5-8].

Before substantial additional investment is made in expanding Internet safety education and prevention efforts, it is important that the field first prioritize goals and direct resources toward programs most likely to result in the sought after outcomes. Changes in Internet and new technology occur daily. Youth, hungry for new experiences, adapt quickly to such changes in ways that are hard for adults to predict. This adds to the impression by parents, educators and law enforcement that they are in entirely new territory in trying to protect youth. But the truth is that helping youth stay safe and make healthy choices is something that educators have been trying to do for decades.

Internet safety education proponents would do well to study the history of youth drug and alcohol abuse prevention, in particular. There are striking similarities in the political contexts of the two initiatives and the intensity of public concern. And there are parallels in our eagerness to prevent Internet victimization and early rushed efforts to prevent youth drug abuse in the 1970s and 80s. Internet safety proponents have a real opportunity to avoid reinventing the wheel. The remainder of the essay reviews the history of drug abuse prevention, from the large scale roll-out of Project DARE (Drug Abuse Resistance Education) in the 1980s, to the intensive efforts over the last two decades to improve youth drug abuse prevention. Critical lessons for youth Internet safety education are emphasized, with ideas about what program developers and funding agencies can do *now* to optimize Internet safety.

Drug Abuse Prevention

Project DARE. The atmosphere during the 1970s and 80s was one of high national anxiety about what was seen as an epidemic in drug use[9]. Surveys show that youth drug use reached its highest peak ever in the U.S. in 1979[10]. During the 1970s, drug abuse prevention had mostly involved giving youth information about drugs and scaring them with stories about the dire consequences of drug abuse. The DARE project, initiated by the Los Angeles Police Department in 1983, was a more comprehensive and structured prevention strategy[11-13]. The program gave 5th and 6th graders information about drugs and their effects, and provided youth with ways to resist social pressure and exercises to increase their self-esteem and assertiveness. The curriculum was led by police officers who received at least 80 hours of training, and was substantially more comprehensive than most Internet safety education efforts in place now. The original DARE curriculum was presented over 17 weekly lessons and was a combination of lectures and interactive components such as role playing and homework assignments. DARE expanded rapidly across the U.S. and became very well-funded as the only drug use prevention program named in the 1986 Drug-Free Schools and Communities Act[9, 14]. By the 1990s, Project DARE was the most widely disseminated school-based prevention program in the U.S., administered in 70 percent of U.S. school districts in 1996[13].

Evaluations of DARE. Unfortunately, public and professional excitement about DARE became solidly established before any rigorous outcome evaluations were conducted. Early, small evaluations suggested positive effects [15], encouraging the dissemination of DARE, but the research designs of these studies were weak and problematic[13, 16]. Rigorous evaluation research started to accrue throughout the late 1980s and early 1990s with the disappointing finding that while DARE produced some short-term improvements in knowledge and attitudes about drugs, there were no reductions in youth drug or alcohol use following the program [11, 16]. A rigorous meta-analysis[*] was conducted in 1994 and confirmed that across multiple evaluation studies there were very few positive effects of the DARE program[14].

The DARE program had become so popular and so well-funded by this point that evidence of its ineffectiveness was met with heated criticism[13, 17]. Nonetheless, following the 1994 meta-

analysis, a steady stream of additional research continued to confirm findings of non-effectiveness. Methodologically rigorous, longitudinal studies with large samples of schools and carefully constructed control groups found no significant differences for cigarette, alcohol or marijuana use 1 year, 5 years, or 10 years after students participated in DARE [11, 13, 18-22].

Developing effective drug and alcohol abuse prevention. While evidence accumulated that the popular DARE program was not achieving the hoped for effect on youth, prevention experts began to use research to figure out what was going wrong and determine what might work better[23]. Evaluation research consistently found that "knowledge-only" prevention efforts and "scare-tactics" failed to stop youth from trying or continuing to use drugs [24]. Researchers posited different reasons for the null findings for the DARE program [18, 21, 25, 26]. They considered the possibility that the educational goals of DARE were too broad or drew from too many different theories; that the affective education component was ineffective; or that at-risk youth were resisting messages from the authoritative police-educators.

On the other hand, prevention strategies based on behavior, learning, and developmental theories were showing more success [25, 27-30]. Resistance skills training, an element of DARE in which youth practice making healthy choices for themselves and resist peer pressure, seemed to be successful across a number of other programs[23, 25], particularly for smoking prevention[4, 16]. Another promising strategy was "normative education" or "norm setting": strategies to counter impressions that the majority of youth use drugs. A third, the "competence enhancement" approach, involved teaching youth self-management and social skills specific to drug use avoidance using cognitive-behavioral methods, demonstrations, practice, feedback, and role-playing. The latter approach was shown to significantly reduce tobacco, alcohol, and marijuana use, particularly when booster sessions were used helped to maintain effects over time[25, 27].

Having identified empirically promising prevention strategies, prevention researchers have more recently begun to focus on what aspects of prevention education are most effective, with what kind of dose, and for which subgroups of youth[31-33]. There is still some debate about whether prevention is more effective when targeted at at-risk populations versus all youth (universal programs)[31, 33]. Future research will have to determine which prevention goals and strategies are needed for the two different groups. Research has also demonstrated that multiple strategies are more effective than using a single strategy and that prevention messages need to be presented to youth multiple times in multiple ways[34]. Finally, it is becoming clear that how well a program is *implemented* (e.g., how carefully it follows the specified curricula) is one of the most critical elements to successful outcomes[35, 36].

Learning from DARE. To its credit, the DARE program was carefully designed, and it included elements that are still incorporated in evidence-based prevention programs today. Evaluations of DARE provided researchers with valuable ideas about how to help youth change behavior and make better choices. What makes DARE such an important cautionary lesson, particularly for Internet safety, is the enormous scope of its roll-out and the large amounts of Federal funding that were provided to the program, even after evidence of non-effectiveness had accumulated. One of the primary reasons that DARE became widely established so quickly was its co-occurrence with a highly charged political climate[9]. In 1986, after President Regan declared a "War on Drugs," federal drug expenditures increased five-fold between 1985 and 1993, including a dramatic growth in funding for prevention education[9, 12]. This environment fueled the growth of DARE, which was a politically popular program, an intuitively appealing combination of two important authorities—schools and police.

Unfortunately, once it was established in communities, DARE was hard to let go of. School districts continue to provide DARE to this day and justify its use because, among other reasons, they believe that the program in their community must be better than those that were evaluated[37]. This reveals a comfort with status quo that can lead people to ignore better alternatives once they've gotten use to a particular--even ineffective--program. This happens at

the community level, as well as at the national level: In 2010 President Obama continued a long-standing presidential tradition by declaring April 10th National DARE day (See http://www.dare.com/home/tertiary/default1b34.asp).

Fast forward to Internet safety 2010.. There are obviously some important differences between promoting youth Internet safety and reducing youth drug use. Using the Internet is a healthy activity, and familiarity and comfort with computers and the Internet prepare youth for futures where technology-related skills will be necessary. Youth will need to be taught the benefits of new technologies, along with the risks. Furthermore, the goals of Internet safety education reflect a range of specific concerns such as reducing youth exposure to pornographic or inappropriate materials, sexual solicitation by Internet "predators," cyberbullying, and sexting. The components of Internet safety education have more in common with efforts to prevent child sexual abuse, dating violence, and bullying than with drug abuse prevention.

Despite the differences between the two fields, there are important cautionary lessons as well as key building materials in the drug abuse prevention narrative. The political context around Internet safety is similar to the fight against youth drug abuse in 1970s and 80s. Internet safety education materials have formed quickly in response to public anxiety with little attention to organizing the response. Lecture formats are common as are frightening stories of Internet victimization used to try and compel youth into changing the ways they interact on the Internet. However, all available research suggests that while entertaining and attention-grabbing, such messages do little to get youth to change how they are behaving.

It would be a tremendous savings of time and resources to make sure Internet safety prevention efforts do not replicate the drug abuse prevention efforts of the 1970s and 1980s. And there is much that policy-makers and funding agencies can do now. Researchers have made enormous strides in advancing prevention science. Below are some of the most critical lessons from drug abuse prevention efforts for improving the quality of youth Internet safety education programs.

Lessons for Internet Safety Education

Lesson #1: Beware a rush to develop and fund intuitively appealing programs out of a panic to get something, anything out into the field.

While it feels good to provide worried communities with emotionally compelling programs, we are misleading families if the programs don't actually help youth stay safer or engage in less risky behavior. Even some of the most well-intentioned and skilled educators can become frustrated with such an approach. In the words of one law enforcement officer: ""What dumbfounds me is we can talk to an entire high school on the first day of school about sexting and sex crimes, and we still have kids do it even though they know it's something they shouldn't do. [38]" As much as one would hope that providing serious information about the consequences of risky behavior would be enough to get children to behave differently, a sizeable body of research confirms that it is not.

There is even reason to worry that haphazard educational efforts could backfire and actually *increase* some risky youth behaviors online. Research has found that some of the drug abuse programs of the 1970s and 1980s had what they call "iatrogenic" or negative effects: increasing drug and alcohol use by perhaps piquing youth interest or increasing the thrill of risk-taking[12, 39]. It is not too difficult to imagine the same thing happening with a lecture on sexting or cyberbullying. We don't want to set up a situation in which widely disseminated, yet untested education programs cause behaviors to develop where they otherwise may not have.

Lesson #2: Develop Internet safety prevention curricula around strategies that we know work.

Although the most rigorous research has been conducted on drug and alcohol prevention, work

in other areas of prevention such as mental health and youth violence are finding that similar elements are effective across different problem areas[30, 33, 40-43]. These are the components that Internet safety programs should build in now in order to have the greatest chance of effectiveness.

First, the most successful programs are **grounded in theory**, meaning that program developers explicitly define why and how they think the program is effective, and use behavioral, social and communication theories to shape the intervention[25, 27, 30, 41, 43-45]. One of the most commonly used theories in prevention program development is social learning theory, which proposes that youth learn from seeing what others do (parents, peers, role models) and imitating them. Social learning theory is the basis for several successful social influence programs such as normative education approaches[23-25, 27, 45]. Normative education corrects youth perceptions that most of their peers are engaging in a particular behavior. Such a strategy could translate well to Internet safety if research determines that normative perceptions about risky activity on the Internet are correlated with problematic behaviors such as cyberbullying and sexting.

Second, research across different areas has found that **interactive programs with skills training offered over multiple sessions** outperform non-interactive, lecture-based, one-shot programs[14, 30]. In order to change how youth act and make decisions, research suggests that they must learn and practice skills such as decision-making, goal-setting, stress management and communication skills[45]. Homework has been shown to increase positive outcomes[33]. Programs are also more effective if “booster sessions” are provided to youth over time[25, 27, 30, 45].

Third, good prevention programs **target actual versus perceived risk factors**. The best drug and alcohol programs organize their intervention around known risk and protective factors[29, 30]. This may seem an obvious tack, but many existing Internet safety programs do not appear to have done this. For example, some programs teach that youth are increasing their risk when they meet multiple people online or share personal information online: there is some evidence for the former, but no evidence for the latter[46]. Additionally, research has found that most juvenile online sex crime victims go to face-to-face meetings with online offenders knowing that they are considerably older[47]. However, Internet safety materials often focus on educating youth about sex victimization that occurs as a result of age deception. The real concern here is poor judgment about sexual correspondence with acquaintances the youth know to be much older. Internet safety programs should be able to demonstrate that their messages incorporate the growing body of research on critical risk factors for Internet problems and victimization[47, 48].

Finally, programs are most effective when they are **integrated into school curricula, implemented consistently, and delivered by trained educators.** Even the most impressive program won’t be effective if the program cannot be replicated, or if it is forced onto communities with no involvement by stakeholders in learning about and taking ownership of the program. Programs should be standardized with curricula that are structured and include manuals and handouts[30, 35, 49]. Training and “buy-in” are critical for educators[35, 41, 45]. School climate and resources are also important to consider when integrating a program into schools[35, 49].

Lesson #3: Consider creative and multi-faceted approaches to Internet safety education.

Drug and alcohol prevention experts describe the need to reach youth using many different strategies[29, 30, 41, 50]. While the best evidence so far supports the value of comprehensive school-based prevention programs, prevention can be successful through public awareness campaigns and parent education as well. Internet safety education will likely be most effective with research-informed approaches occurring at different levels, particularly given that Internet safety covers a broad and varied list of different types of concerns. It might be that certain problems can be addressed through public awareness campaigns and parent education, others through multi-session school-based programs, and still others through intensive programs

targeting at-risk youth.

Additionally, the field will need to consider creative ways to reach youth that have not yet been fully incorporated into Internet safety education programs thus far. Peer-led educational programs have shown beneficial outcomes in drug abuse prevention[31] and would appear to be a likely fit for Internet safety. Bystander education programs could also inform Internet safety efforts. Such programs have shown good outcome data for sexual and dating violence programs for teens and college students[51]. Bystander education seems particularly promising given that it is typically peers who are first aware of problematic Internet behavior such as cyber-bullying and distribution of sexual images.

The field will also have to wrestle with how important it is that Internet safety education is provided in standalone programs versus incorporated into existing evidence-based prevention programs. Schools are overloaded with prevention efforts and combination approaches would probably be appreciated[52]. Internet victimization risk-factors (e.g., rule-breaking behavior, depression, social interaction problems, and poor emotional bonds with caregivers) are very similar to the risk-factors for so many other youth problems [48, 53-56]. Internet safety education program developers might consider throwing some advocacy weight and financial support toward infusing Internet safety education into exemplary programs that have already been shown to reduce related risk factors. Such a strategy could have the benefit of reducing problematic youth Internet behavior while *also* lowering rates of off-line problems such as victimization, bullying, drug abuse, and risky sex.

Lesson #4: Apply rigorous evaluation to all promising programs

Most youth-serving professionals are aware of the importance of evaluation research in determining whether a given intervention is effective in achieving the right outcomes. It is also important that evaluation is done correctly, following standards of scientific rigor. This can be frustrating for those eager to get programs out in the field because a careful evaluation process costs money and takes time. Luckily, Internet safety advocates can use research-based prevention strategies, like those listed above, *right now* to develop Internet safety prevention programs that have a high likelihood of success. Agencies and schools should strategize to fund and implement programs with as many of these components as possible. At the same time, rigorous pilot evaluation research should be initiated on the most impressive curricula. By trying to ignore or circumvent the evaluation process, the Internet safety prevention field could end up repeating mistakes made by the drug abuse prevention field: two decades later they could be backtracking after having spent large amounts of time and money on ineffective efforts, only to then have to spend more time and money to get it right.

Summary

Early drug abuse prevention efforts offer important warnings about the dangers of moving too quickly in response to anxiety about new youth problems. Fortunately, much has been learned in the past several decades about how to help children avoid risky or unhealthy behaviors. Recent advances in prevention science provide us with a valuable jump-start in developing Internet safety programs that are likely to make a real difference. It is telling that evaluation research in areas such as mental health, drug abuse, violence prevention, and AIDS prevention have all found that similar program characteristics help youth to successfully change their behavior, including: 1) explicit theoretical design; 2) defined purposes and goals; 3) interactive learning; and 4) multiple exposures to educational messages. On the other hand, less effective programs tend to: 1) rely on lectures and presentation formats; 2) focus only on knowledge building and changing attitudes; and 3) use fear tactics. Internet safety concerns are increasing and more private, state, and federal funding will likely become targeted toward prevention efforts. It is important to ensure that the curricula we develop reflect the most current and accurate state of knowledge about the problems being targeted and the best ways to prevent them.

[*] Meta-analysis is a methodologically rigorous procedure that statistically combines findings from a large number of evaluation studies. Because it summarizes findings across multiple studies, the results are more reliable than those from a single evaluation study.

About the Author

Dr. Jones is a Research Assistant Professor of Psychology at the CCRC. She has over 10 years experience conducting research on sexual crimes against children with a focus on analyzing and evaluating national, state, and community-level responses to victims. Dr. Jones has authored or co-authored several influential papers on national trends in sexual victimization of children and youth. She helped to direct a five-year, quasi-experimental Multi-site CAC Evaluation Project, funded by OJJDP. Dr. Jones is the recipient of a grant from the National Institute of Justice to conduct a process evaluation of four of the most prominent Internet safety prevention programs. She is or co-author on several developing papers on Internet crimes against children with a focus on family and acquaintance offenders in Internet crimes, pornography production, and technology-facilitated commercial sexual exploitation.

About this Essay

This essay was written for the Risky Behaviors and Online Safety track of the Youth and Media Policy Working Group Initiative. The Initiative is part of Harvard University's Berkman Center for Internet and Society. The Initiative is exploring policy issues that fall within three substantive clusters that emerge from youth's information and communications technology (ICT) practices:

• Risky Behaviors and Online Safety
• Privacy, Publicity and Reputation
• Youth Created Content and Information Quality

The Initiative is funded by the MacArthur Foundation and is co-directed by danah boyd, Urs Gasser, and John Palfrey. The goal of the Initiative is to engage practitioners and make policy recommendations that are grounded in and connected to research findings. For more information: http://cyber.law.harvard.edu/research/digitalnatives/policy

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