Risky Behaviors and Online Safety: A 2010 Literature Review (DRAFT)

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As social media continues to play a central role in the lives of youth, questions emerge about the safety of these online spaces and the risky behaviors in which youth engage. In 2008, the Internet Safety Technical Task Force (ISTTF) produced a Literature Review to document the research known about the threats that youth experience online (Schrock and boyd 2008). This document serves as an update to that Literature Review. The purpose of this document is to concisely and publicly document ongoing research in the major areas of concern regarding online safety and risky youth behaviors: sexual solicitation and Internet-initiated sex crimes involving minors, online harassment and cyberbullying, youth access to problematic content, and youth-generated problematic content.

Research can and should play an important role in shaping policy, education, interventions, parenting, technology, and public discourse. Research helps map ongoing changes and teases out the complex dynamics that are often at play when trying to make sense of societal issues. Research can also be an antidote to fear, enabling those involved in societal change to focus on the root of the problem rather than simply address the surface level issues. That said, one of the greatest risks that researchers face is being misinterpreted. As noted in the ISTTF, there's an ongoing tendency to misinterpret research or to assume that it says more than it claims to say. In crafting this Literature Review, we are attempting to portray the research as accurately as possible, but we also realize that readers may still misinterpret what we are saying or what the studies say. For this reason, it is important to use this Literature Review as a starting point and not an end point. If you are working in this area, please follow the citations to read the full research reports referenced and, when appropriate, contact the researchers for more information.

This Literature Review is part of a larger endeavor at Harvard University's Berkman Center for Internet and Society to assess Youth and Media Policy issues, co-directed by danah boyd, Urs Gasser, and John Palfrey. This Literature Review is part of the Risky Behaviors and Online Safety track, coordinated by danah boyd. For more information on the project and to read other material prepared for the project, see: http://cyber.law.harvard.edu/research/digitalnatives/policy

This Literature Review is a work-in-progress and we welcome any and all feedback. Please send your feedback to danah@cyber.law.harvard.edu

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In 2008, Schrock and boyd prepared a Literature Review for the Internet Safety Technical Task Force, entitled "Online Threats to Youth: Solicitation, Harassment, and Problematic Content." This Literature Review attempted to summarize key research in the areas connected to risky youth behavior and online safety. Since 2008, two international reviews have been released to document known research outside of the US: the EU Kids Online Final Report (EUKO) (Livingstone and Haddon 2009) and the Review of Australian and International Cyber-Safety Research (RAICR) (Dooley et al. 2009), commissioned by the Department of Broadband, Communications, and the Digital Economy. While there is overlap in the research analyzed by all three reports, the EU Kids Online and RAICR reports provide valuable international information that is not highlighted in the ISTTF report.

This document begins with a review of the major findings from the Internet Safety Technical Task Force (ISTTF), noting which major research article reviewed in that report supports each broad finding. When available, data from EU Kids Online and RAICR are provided to complement or complicate the findings of the ISTTF. Recent studies are also included when they address the finding discussed in the ISTTF report. The second part of this document provides an overview of major findings in recent literature, or international literature not covered in the initial ISTTF Review.

While it is impossible to cover all findings by all research produced in this area, this Update highlights many important results that have been released since the ISTTF Review. As with the ISTTF Review, this report emphasizes rigorous, methodologically sound quantitative studies, leveraging qualitative work when appropriate to help clarify key points. While the ISTTF Review focused primarily on studies of US youth, this report moves beyond that to highlight work done in other countries. Due to the lack of research available in most countries around the globe, this report primarily discusses work in the US, Canada, Europe, and Australia. More international work is desperately needed.

As with studies discussed in the ISTTF Review, many of the studies discussed here show similarities between research done across different populations, using different methodological techniques, and at different times. This is not because we excluded contradictory research; this is because researchers are seeing very similar patterns. While we did exclude research that was not rigorous and research done by marketing firms, we did not exclude research based on findings. Conversely, we actively include less rigorous work that challenges common trends so as to provide a more complete picture. It is important to highlight that, although many believed that the research picture would change as social network sites became more popular, this is not generally true and we explicitly highlight cases where change occurs.

We begin this report with a brief discussion of this research in order to help the reader better understand the overall picture.

Implications of this Research for Meaningful Interventions

by danah boyd

Since youth began using the Internet, there has been concern about the risks introduced by this new communication and information medium. Discussions of the Internet tend towards extremes, with some emphasizing the potential for empowerment and some suggesting the Internet is the great destructor of civilization. Unfortunately, when it comes to issues related to risky youth behaviors and online safety, the narrative is purely bleak. Much popular discourse suggests that the Internet has made life for children radically more dangerous without accounting for the youth who have overcome risks through their engagement. As with everyone who works in this area – researchers, practitioners, educators, and policy makers – we are committed to helping youth and addressing the dangers that they face. Our shared goal should not be a blinder for we can do great harm to youth if our fear clouds our actions.

Researchers have worked diligently to measure the risks and understand the interplay between demographics, online practices, offline factors, and risks. As new genres of social media emerge, concerns continue to escalate, prompting researchers to assess whether new channels of communication rework the risks that youth face. This report details many of recent research findings, highlighting frequencies and correlations, but the purpose of this section is to paint a more descriptive portrait with an eye towards interventions. Because public policy is incapable of addressing every unique situation, it's necessary to step back and think in more general terms. This is not to dismiss high-profile cases that attract broad attention, but to suggest that we should be looking for solutions that have the highest potential of impact. Our collective goal must be to help youth and to empower them to help each other. When we enact policies based on fear or get distracted by high-profile cases, we often fail to address the more general problems that are less sensational. Research into risky behaviors and online safety makes clear that there are youth who face risks and are harmed in connection to their participation online. Yet, the topology of risk and danger portrayed by research highlights different inflection points than that which is presented in popular accounts. By highlighting where the greatest risks exist, research offers an important roadmap to intervention that often highlights different issues than popular discourse.

Concerns about online predators are pervasive, but the image that most people hold doesn't necessarily match with the data about sexual crimes against minors. For starters, the emphasis on what takes place online tends to obscure the fact that most cases of sex crimes against children do not involve the Internet at all. As we seek to help youth who are victims, we must continue our efforts to address victimization in the home and in the community; addressing Internet-initiated victimization alone will not help the vast majority of children who are victimized. When facing interventions to address Internet-initiated victimization, we must be attentive to research that highlights that some youth are more at-risk than others. Youth who have psychosocial issues, family and school problems, and those who are engaged in risky behaviors are far more likely to be victimized than the average youth using the Internet. Targeting those who are more at-risk will allow us to help more youth. Research also suggests that most youth who are victimized are not deceived about the abuser's age, do discuss sex online before meeting up offline, and are aware of the abuser's sexual intentions when they decide to meet them. These youth often believe that they are in love and have no mental model for understanding why

statutory rape is a crime. In order to help these youth, we cannot focus solely on preventing adults from engaging with youth; we must also help youth recognize that these encounters are abusive before they occur.

While the Internet has affected the contours of bullying and harassment, research continues to emphasize the interplay between what occurs online and what takes place offline. Many of the same youth are susceptible to victimization and those who engage in online bullying are not wholly distinct from those who bully offline. While much research is still needed to stabilize definitions and measurements, there is little doubt that bullying is prevalent both online and offline, affecting all communities even if it doesn't affect all individuals. We need interventions that get at the root of bullying, regardless of where it takes place. Because research consistently shows a connection between psychosocial troubles, family and school issues, and bullying, we cannot presume that parents are always equipped or present to intervene (and may in fact be part of the problem). Although countless programs have been developed to educate kids about bullying, far too little is known about the effectiveness of these programs. Finally, what happens online is more visible to adults, but we cannot assume that the most damaging acts of bullying are solely those that we are able to witness.

The Internet introduces new opportunities for youth to get access to problematic content, including pornographic and violent content as well as that which depicts or encourages self-harm. Research shows that the Internet is not the only place where youth get access to this content, suggesting that an Internet-only approach will not eradicate the problem. Research also consistently highlights a connection between the practices of seeking access and being exposed, suggesting that an effective intervention needs to account for the motivations that youth have when they seek access. Blocking access certainly has its place, but if we fail to address those who are seeking access, we will not curtail the most problematic outcomes.

Finally, as youth actively participate in user-generated content, some are also contributing to the production of problematic content, such as that which is labeled "sexting" and gross-out content as well as the content disseminated on self-harm and eating disorder lifestyle websites. Far too little is known about youth engagement with these practices, although new research is emerging. In order to intervene in these areas, we must start by better understanding youth motivations and intentions; curbing these practices will require their involvement.

Unfortunately, there is no way to eradicate all risks from society. As we work to make the Internet a safer place for youth, we must be prepared for the reality that kids will still engage in risky behaviors to their peril. In trying to help all youth, we cannot unintentionally limit youth from developing the skills necessary to navigate public spaces, assess the risks they face, and understand the consequences of their decisions. We cannot simply protect them until their 18th birthday and then expect them to be responsible digital citizens. Isolating children from dangerous environments may be appropriate, but part of coming of age as a teenager is encountering public spaces and we need to find approaches that help teenagers make the transition to adulthood. The more that we can do to create channels of communication between youth and responsible adults and empower youth to play an active role in any intervention, the more successful we will be in combating the challenges we face with respect to risky behaviors and online safety.

This is a draft document intended to elicit feedback, corrections, and updates.
Please send comments to danah@cyber.law.harvard.edu.

Sexual Solicitation and Internet-Initiated Offline Contact

Before discussing the research in the area of sexual solicitation, it is important to note that researchers' definition of the term encompasses a broad range of behaviors that may not come to mind when this term is used in everyday speech. As defined by Wolak et al. (2006), "sexual solicitations involve requests to engage in sexual activities or sexual talk or give personal sexual information" (pp 14). As noted in the 2008 ISTTF report, this definition encompasses unwanted behavior ranging from explicit requests for sexual activity to online interactions that resemble unwanted "flirting" (McQuade and Sampat, 2008; Smith 2007); some solicitations are intended to achieve sexual goals while others are intended to harass the recipient (Biber et al. 2002; Finn 2004; Wolfe and Chiodo 2008). While all interactions labeled as sexual solicitations are problematic, the intensity and harm of those interactions varies widely.

➢ **Youth receiving sexual solicitations declined somewhat between 2000 and 2006, from 19% in 2000 to 14% in 2006.**
  o **ISTTF:** Finkelhor et al. 2000; Wolak et al. 2006
  o **RAICR:** Data for prevalence rates of sexual solicitation are not yet available for Australia.

➢ **Older youth (14-17) receive the majority of sexual solicitations in a sample of 10-17 year olds, with no 10 year olds reporting solicitation and only 3% of 11-year-olds. Eighty-one percent of youth reporting solicitation were between 14 and 17 years old.**
  o **ISTTF:** Wolak et al. 2006.

➢ **The percentage of youth reporting dangerous offline contact as a result of online encounters is low, and Internet-initiated sexual assaults are rare.**
  o **ISTTF: Wolak et al. 2004, 2006-** In YISS-1 and YISS-2, between 0 and 2 out of 1500 youth surveyed reported online encounters that resulted in offline sexual contact.
  o **Recent Research:**
    ▪ Shannon 2008- of 315 cases of Internet-related sexual crimes against children reported to Swedish police, 22% involved evidence of offline sexual assault. The author did note that such assaults are likely to be under-reported.
    ▪ Wolak, Finkelhor, & Mitchell 2009- Based on N-JOV data, arrests for Internet-initiated sex crimes rose slightly from 2000 to 2006, but cases involving youth victims remain rare. In 2000, U.S. law enforcement agencies made an estimated 508 arrests for Internet-initiated sex crimes involving youth victims. In 2006, this number rose to an estimated 615 arrests.

➢ **The overall number of cases of sexual assault reported per year has steadily decreased since 1992, suggesting that the total number of cases of sexual assault against youth has not increased due to the Internet.**
  o **ISTTF:** National Center for Missing and Exploited Children 2006; Calpin 2006; Finkelhor and Jones 2008; Wolak et al. 2003b

➢ **Online chat rooms are the dominant medium for youth to be solicited online.**

- o **ISTTF:** Wolak et al. 2006; Wolak et al. 2008b
- o **RAICR:** Chat rooms are by far the most common reported location for Internet-initiated sexual relationships between adults and minors.
- o **Recent Research:**
  - ▪ Wolak, Finkelhor & Mitchell 2009- The percentage of sexual assaults against youth victims involving chat rooms dropped from 80% in 2000 to 40% in 2004.

➢ **The percentage of youth reporting solicitation and harassment on social network sites (SNSs) is comparable to solicitation rates across all media. Social network sites do not appear to promote sexual solicitation to a greater extent than other forms of Internet communication.**
- o **ISTTF:** Rosen et al., 2008; Ybarra & Mitchell, 2008
- o **Recent Research:**
  - ▪ Wolak, Finkelhor & Mitchell 2009- In 2006, 33% of arrests for Internet-initiated sexual assault against youth victims involved the use of SNS. The researchers note that the shift from chatrooms to SNS appears to be due to the shift of where youth go online, but did not find evidence that perpetrators were using information from SNS profiles to stalk or abduct youth victims.
  - ▪ Mitchell et al. 2010- Based on a nationally representative survey of U.S. law enforcement agencies, an estimated 2,322 arrests for sex crimes against minors involved the use of social network sites to some extent. The degree of SNS involvement varied significantly, and total cases involving SNS represented only a fraction of Internet-initiated sex crimes against minors, suggesting that SNS use is not a risk in and of itself.

➢ **Most youth report ignoring unwanted online solicitations, with 64-75% reporting no psychological harm or distress.**
- o **ISTTF:** Wolak et al. 2006; Rosen et al. 2008
- o **EUKO:** Qualitative data suggests that children have various coping mechanisms for problems they encounter online, including ignoring the problem or telling a friend or adult.

➢ **Youth who meet adults for sex generally know the offender's age and sexual intent, suggesting the model of online solicitation that leads to offline sexual assault is more accurately likened to the model for statutory rape.**
- o **ISTTF:** Wolak et al. 2008a, 2008b; Hines and Finkelhor 2007: 301.
- o **Recent Research:**
  - ▪ Shannon 2008- Swedish police reports indicate that offenders very rarely pretend to be the same age as the victim, and generally make their sexual interest known, including cases where the victim was offered money for offline sexual acts.

➢ **Most (73%) of the offline relationships resulting from online solicitation include multiple meetings between the offender and victim.**

- o **ISTTF:** Wolak et al. 2004
- o **Recent Research**
  - ▪ Shannon 2008- Swedish police data showed a number of cases where the victim met the perpetrator more than once offline.

Youth at Risk for Sexual Solicitation or Grooming

➢ **Youth receiving solicitations or pursued for sexual relationships are generally female, though a growing number of males report online sexual solicitations.**
  - o **ISTTF:** Wolak et al. 2004, 2006, 2008b
  - o **Recent Research:**
    - ▪ Shannon 2008- over 90% of children reporting a sexual offense involving the Internet were female.

➢ **The vast majority of cases of aggressive sexual solicitation and online grooming involve adolescent youth (primarily 13-17), as opposed to pre-pubescent children. Aggressive or distressing solicitations are generally concentrated in older adolescents (aged 14-17).**
  - o **ISTTF:** Wolak et al. 2004, 2006, 2008b; Finkelhor et al. 2000; Beebe et al. 2004; Mitchell et al. 2001, 2007b; Ybarra et al. 2007b
  - o **Recent Research**:
    - ▪ Shannon 2008- Swedish reports of both online and offline Internet-related offenses toward minors show that less than one third (32%) of victims were under 13. Older youth were more likely to be the victims of offenses involving offline contact (including phone calls or text), while most younger victims only experienced online contact. For example, victims were under 13 in 44% of sexual offenses involving only online interaction, but that number drops to 8% for cases with offline sexual contact involving children under age 13. 92% of victims of online-initiated offline sexual contact were between 13 and 17, and data showed that more offline contact generally occurred with older victims than younger victims.

➢ **Risky behaviors, including entering adult chat rooms, sharing personal information with strangers, and particularly discussing sex online, are correlated with aggressive sexual solicitation.**
  - o **ISTTF:** Wolak et al. 2008a, 2008b

➢ **Engaging in multiple risky online behaviors (i.e. visiting pornographic sites, file-sharing, making rude comments, and speaking with strangers about sex) is associated with higher levels of risk.**
  - o **ISTTF:** Wolak et al. 2008a; Ybarra et al. 2007b
  - o **Recent Research:**
    - • Steeves and Webster 2007- 17 year olds in their Canadian sample were more likely than younger age groups to engage in risky online behaviors such as sharing personal information, visiting adult chat rooms, and accessing pornographic websites, suggesting they may be at greater risk for solicitation.

➢ **Youth reporting online victimization or solicitation show similar risk factors as youth who are vulnerable in offline contexts (experienced sexual or physical abuse, parental conflict, substance use, low caregiver bonding, depression, sexual aggression, etc.)**
  o **ISTTF:** Finkelhor 2008; Mitchell et al. 2007a; 2008; Ybarra et al. 2007b; Ybarra et al. 2007c
  o **Recent Research**:
    • Wells and Mitchell 2008- Youth reporting aggressive online sexual solicitation were more likely to report sexual or physical abuse, and high degrees of parental conflict.

➢ **Developing close online relationships with those met via the Internet is also correlated with problems offline, including a poor home environment (conflict, poor caregiver-child relationship), depression, previous sexual abuse, and delinquency. Such relationships may increase the risk of Internet-based sexual victimization.**
  o **ISTTF:** Wolak et al. 2003a

Sources of Sexual Solicitation and Internet-Related Sexual Assault

➢ **A significant number of online solicitations (which includes sexual jokes or comments as well as sexual requests) come from offline acquaintances.**
  o **ISTTF:** Wolak et al. 2006, 2008b

➢ **Most teens report that online sexual solicitations come from peers, and the majority of the remainder comes from adults in their late teens and early 20s. Only 4-9% of solicitations where the age of the offender is known to come from adults over 21 years of age.**
  o **ISTTF:** Finkelhor et al. 2000; Wolak et al. 2006

➢ **In cases where law enforcement is involved, perpetrators of Internet-initiated sex crimes are generally older than their victims. In law enforcement data from 2001-2002, 23% of perpetrators were between 18 and 25, and 41% of perpetrators were between 26 and 39. Nearly half (47%) of perpetrators were at least 20 years older than their victims.**
  o **ISTTF:** Wolak et al. 2004
  o **Recent Research:**
    ▪ Shannon 2008- In Swedish police data, almost 90% of online and offline sexual offences involving Internet contact were perpetrated by men over eighteen. 30% of perpetrators were over 35.
    ▪ Wolak, Finkelhor, & Mitchell 2009- Between 2000 and 2006, there was a significant increase in the number of young adults arrested for Internet-initiated sexual assaults on minors. For cases involving youth victims, the percentage of perpetrators aged 18-25 rose from 23% in 2000 to 40% in 2006, which can account for the overall rise in the number of arrests in such cases in that time frame.

➢ **Approximately one fifth (18%) of arrests for Internet-facilitated sex crimes involve victims' family members or offline acquaintances such as family friends or neighbors. Individuals known to the victim may use the Internet to develop a sexual relationship with the victim or arrange offline meetings.**
   o **ISTTF:** Mitchell et al. 2005

➢ **Perpetrators of Internet-initiated sexual assault are generally male.**
   o **ISTTF:** Wolak et al. 2004
   o **Recent Research:**
      ▪ Shannon 2008- All of the offenders in reviewed reports to Swedish police were male. This study included both online and offline Internet-related sexual encounters involving underage victims, ranging from flashing via webcam to offline sexual assault.

➢ **Significant deception about age or sexual interest is uncommon for Internet sex offenders, although deceptive expressions of love and romance are common.**
   o **ISTTF:** Wolak et al. 2008b
   o **RAICR:** Approximately 6% of cases of Internet-initiated offline sexual contact involved deception about the offender's age.

Other Internet-Initiated Connections

➢ **Most youth go online to connect with pre-existing friends, not strangers.**
   o **ISTTF:** Lenhart and Madden 2007; boyd 2008
   o **Recent Research:**
      • Steeves and Webster 2007- The majority of Canadian youth in their sample (aged 13-17 years) reported going online to deepen existing offline relationships.

➢ **A significant minority of youth (10-16%) report meeting someone in person after having met online.**
   o **ISTTF:** McQuade and Sampat 2008; Berrier 2007; Berson and Berson 2005; Pierce 2006, 2007; Wolak et al. 2006
   o **EUKO:** In the EU, around 9% of online teens meet people offline after making online contact, with a high of 1 in 5 arranging such meetings in Poland.

➢ **When online contacts agree to meet offline, the relationship is usually a peer-based, non-sexual friendship that is known to parents.**
   o **ISTTF:** Wolak et al. 2002; Ito et al. 2008
   o **EUKO:** Meetings based on online contact are generally between similar-aged teenagers.

Cyberbullying / Online Harassment

Though there are discrepancies in the specific definition of cyberbullying, the ISTTF Report emphasized the definition of "an overt, intentional act of aggression towards another person online" (Ybarra and Mitchell 2004a: 1308) or a "willful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices" (Hinduja and Patchin 2009: 5). New research is currently underway to understand how differences in definition affect reporting (Ybarra - COST 2009) ; this is crucial for both consistency and teasing out the effects and harm of bullying and online harassment.

➢ **Reported prevalence rates of cyberbullying vary widely depending on the study from 4-46%, primarily because of methodological differences.**
  - o **ISTTF:** Hinduja and Patchin 2009; Kowalski et al. 2007; Lenhart 2007; McQuade and Sampat 2008; Smith et al. 2008; Williams and Guerra 2007; Wolak et al. 2006; Ybarra et al. 2007a
  - o **EUKO:** One in five or six online teens reports being cyberbullied.
  - o **RAICR:** Less than one in ten Australian youth report cyberbullying victimization.
  - o **Recent research:**
    - ▪ Mesch 2009- 40% of the U.S. sample aged 12-17 reported ever being victimized, determined using a behavioral measure.
    - ▪ Hinduja and Patchin 2010- approximately 30% of a U.S. middle school sample was victimized within the previous 30 days.
    - ▪ Twyman et al. 2009- U.S. sample ages 11-17, 14% of subjects recruited reported cyberbullying exposure either as victims or both victim and offender using a behavioral measure.
    - ▪ Mishna et al. in press- A Canadian sample grades 6, 7,10, & 11 reported a 49% victimization rate and a 34% rate of offending using a behavioral measure.
    - ▪ Vandebosch and VanCleemput 2009- Belgian sample aged 12-18 using the term cyberbullying but no explicit definition: 11% victims, 18% perpetrators, 28% bystanders. Using behavioral measures of problematic online or cellular phone practices: 62% victim, 53% perpetrator, 76% bystander.

➢ **Online harassment is less common than offline bullying.**
  - o **ISTTF:** Lenhart 2007; Li 2007a; Smith et al. 2008; Williams and Guerra 2007

➢ **Many cyberbully victims know the perpetrator offline.**
  - o **ISTTF:** Hinduja and Patchin 2009 (82% knew perpetrator, 41% were friends); Wolak et al. 2006 (44% knew perpetrator)

➢ **Online harassment seems to peak around mid-adolescence (around 14-15).**
  - o **ISTTF:** Kowalski and Limber 2007; Lenhart 2007; Slonje and Smith 2008; Williams and Guerra 2007; Hinduja and Patchin 2008

- o **RAICR:** The higher age associated with cyberbullying may be due to age-related differences in Internet use.
- o **Recent Research:**
  - ▪ Perren et al. Under Review- Older youth were more likely to report cyberbullying perpetration in a sample of Swiss and Australian youth.

➢ **Incidence of online harassment does not seem to taper off as youth age, with reported rates remaining stable (around 19-20%) for youth ages 15 through 17.**
  - o **ISTTF:** Wolak et al. 2006

➢ **Because of the peer-based communication focus of social network sites, they may play a role in increasing the risk of cyberbullying or online harassment.**
  - o **ISTTF:** Lenhart 2007
  - o **RAICR:** Researchers in the area of cyberbullying found evidence that Australian youth may use MySpace to harass and bully their peers, a trend they see as problematic given the rising levels of Internet access through computers and mobile devices.
  - o **Recent Research:**
    - ▪ Twyman et al. (2009) found that both cyberbullies and their victims are more likely to have a MySpace or Facebook page.

Cyberbullying Perpetrators

➢ **Many cyberbullied youth indicate that the perpetrators were other youth (such as siblings, friends, or other students in school).**
  - o **ISTTF:** Kowalski and Limber 2007; Slonje and Smith 2008; Wolak et al. 2006, 2007a; Hinduja and Patchin 2009

➢ **There may be overlap between cyberbully victims and offenders, possibly because some victims may cyberbully back.**
  - o **ISTTF:** Burgess-Proctor et al. 2009; Beran and Li 2007; Kowalski and Limber 2007; Ybarra and Mitchell 2004a
  - o **Recent Research:**
    - ▪ Twyman et al. 2009- of 52 youth reporting experience with cyberbullying, 27% reported experience as both victim and offender.
    - ▪ Vandebosch and VanCleemput 2009- Victims of cyberbullying behavior were more likely to also be cyberbullying offenders, and vice versa.
    - ▪ Perren et al. Under Review- A sample of Swiss and Australian youth showed significant overlap in cyberbullying and cyber-victimization.

➢ **Youth who are online bullies also tend to be offline bullies. Over half of U.S. youth who reported cyberbullying others within the previous 6 months also admit to bullying offline as well.**
  - o **ISTTF:** Hinduja and Patchin 2009
  - o **Recent Research:**

- Perren et al. Under Review- Swiss and Australian youth who bullied others online were more likely to report bullying others offline as well.

➢ **Perpetrators tend to be mid-adolescents, with some research showing higher numbers of self-reported online bullies as youth age (in a sample of youth aged 13-18).**
  - **ISTTF:** Smith et al. 2008; Williams and Guerra 2007; Raskauskas and Stoltz 2007
  - **RAICR**: Australian studies find higher reported levels of online bullying (as perpetrator and victim) in older grades. The trend of increased bullying with increased age may be related to experience with technology, as youth report more technology use and experience with age.

➢ **Conflicting data exists regarding whether boys or girls are more likely to be cyberbullies, possibly due to definitional differences.**
  - **ISTTF:** DeHue et al. 2008; Li 2007a; Williams and Guerra 2007 (primarily male); Wolak et al. 2006 (some female prominence); Hinduja and Patchin 2008; Li 2006; Wolak et al. 2007a; Ybarra and Mitchell 2004b (inconclusive)
  - **EUKO:** Boys are generally more likely to create conduct risks, meaning youth are generating problematic content or harassing/ bullying others online. This also includes hacking and creating or uploading pornographic material, which may account for the majority of male conduct risks, rather than cyberbullying.
  - **RAICR:** Australian studies did not find clear gender differences among those who reported engaging in cyberbullying behaviors.
  - **Recent Research:**
    - Topcu et al. 2008- no significant gender difference in cyberbullying offenders in Turkey.
    - Vandebosch and VanCleemput 2009- Boys engaged in more potentially offensive practices via cell phones and the Internet. These activities, such as spreading rumors or threatening others via email or phone, are generally included in researchers' behavioral measures of cyberbullying. The authors defined them as "potentially offensive practices," noting that cyberbullying definitions require a behavior to be hurtful to the target in order to be considered cyberbullying.

➢ **Youth who engage in harassing online behavior are more likely to report offline issues, including substance use, delinquency, and poor relationships with caregivers.**
  - **ISTTF:** Ybarra and Mitchell 2004b

Victims of Cyberbullying and Online Harassment

➢ **Though data on gender differences in victims are variable, studies generally find that girls may be more likely to be victims of online harassment.**
  - **ISTTF:** Agatston et al. 2007; DeHue et al. 2008; Hinduja & Patchin 2009; Kowalski and Limber 2007; Lenhart 2007; Li 2005, 2006, 2007b; Smith et al. 2008

- o **EUKO:** Both boys and girls are at risk for being bullied online, with no gender differences noted.
- o **RAICR:** Australian prevalence rates for cyber victimization are higher for females, though one study found this difference only in "independent," or private schools.
- o **Recent Research**:
  - Topcu et al. 2008- no significant gender difference in cyberbullying victims in Turkey.
  - Dempsey et al. 2009- Males were more likely to report overt victimization (offline aggression or bullying), while females were more likely to report relational victimization (offline acts that damage peer relationships or social standing) and cyber victimization.
  - Mesch 2009- girls were more likely to report online bullying victimization in a sample aged 12-17.
  - Vandebosch and VanCleemput 2009- Girls were more likely to be victims of potentially offensive online and phone-based practices. As noted above, potentially offensive practices include teasing, spreading rumors, and other bullying behaviors, but the researchers did not confirm that these behaviors were hurtful for the recipient, and thus did not label them as cyberbullying behaviors.
  - Perren et al. Under Review- In a sample of Swiss and Australian youth, boys were less likely to report being victims of cyberbullying.

- ➢ **Girls are more likely to be distressed by online harassment.**
  - o **ISTTF:** Burgess-Proctor et al. 2009; Hinduja and Patchin 2009
  - o **EUKO:** Girls appear to be more likely to be upset by offensive material.

- ➢ **Victims of online bullying are likely to experience offline bullying as well, though rates of overlap between those victimized online and offline vary.**
  - o **ISTTF:** Hinduja and Patchin 2007, 2009; Kowalski and Limber 2007; Raskauskas and Stoltz 2007; Ybarra et al. 2007a
  - o **RAICR:** More than one third of those bullied online also reported being bullied offline.
  - o **Recent Research:**
    - Dempsey et al. 2009- While relational, overt, and online victimization were all found to be separate forms of victimization, the limited overlap did indicate that those experiencing one form were more likely to experience others.
    - Twyman et al. 2009- cybervictims were more likely than matched peers to be victimized offline.
    - Vandebosch and VanCleemput 2009- victims of cyberbullying behavior were more likely to be victims of offline bullying than non-cyberbullied peers.
    - Perren et al. Under Review- Swiss and Australian youth who reported being victims of cyberbullying were also more likely to be victims of offline bullying.

Cyberbullying Correlates

➢ **Victims of cyberbullying may be more likely to report depressive symptoms, loneliness, fear, embarrassment, avoidance of all or parts of the Internet, school absences, and lower grades. Depressive symptoms have also been reported in online bullies, as well as those who are both victim and offender of online bullying.**
  o **ISTTF:** Wolak 2006; Patchin and Hinduja 2006; Ybarra and Mitchell 2004a, 2007; Beran and Li 2007
  o **RAICR:** Though many youth know the identity of those who harass them online, the authors note that anonymous cyberbullying may lead to generalized anxiety or fear that may translate to offline interactions.
  o **Recent Research:**
    ▪ Dempsey et al. 2009- Cyber victimization was associated with increased social anxiety. No significant relationship was found between cyber victimization and depression in that sample.
    ▪ Hinduja & Patchin 2010- Both cyberbullying offending and victimization was associated with higher levels of suicidal ideation and suicide attempts.
    ▪ Patchin & Hinduja, Under Review- US middle-school students who had experience with cyberbullying as either victim or offender reported significantly lower self-esteem than youth with no cyberbullying experience.
    ▪ Perren et al. Under Review- In a sample of Swiss and Australian youth, cyberbullying and cybervictimization both correlated with depressive symptomology.

Exposure to Problematic Content

➢ **42% of youth reported some form of exposure to pornographic content. Of those youth who report exposure, 66% say it was unwanted.**
  o **ISTTF:** Wolak et al. 2006
  o **UK Kids Online:** 4 in 10 teens across Europe see pornography online, though there is significant disagreement whether this is a potentially harmful occurrence.
  o **RAICR:** Australian data shows 84% of boys and 60% of girls report accidental exposure to online pornography, while 38% of boys and 2% of girls report intentional exposure to online pornography. The authors also noted the problematic misdirection of domain names that would likely be entered by children (such as teltubbies.com) containing pornographic content.

➢ **A small portion of youth who had unwanted exposure reported being "very or extremely upset" by it, generally younger children.**
  o **ISTTF:** Wolak et al. 2006

➢ **Males are more likely to be exposed to both wanted and unwanted pornography online. Among females, the vast majority of exposure to pornography was unwanted, whereas males were much more likely than females to report seeking out pornographic content.**

- o **ISTTF:** Cameron et al. 2005; Flood 2007; Lenhart et al. 2001; Nosko et al. 2007; Peter and Valkenburg 2006; Sabina et al. 2008; Stahl and Fritz 1999; Wolak et al. 2007b; Ybarra and Mitchell 2005
  - o **EUKO:** Boys are more likely to seek out violent or offensive content, such as pornographic materials.
  - o **RAICR:** Boys are more likely to be exposed to both wanted and unwanted pornographic content online.
  - o **Recent Research:**
    - Brown and L'Engle 2009- 66% of adolescent males reported seeing sexually explicit media, including Internet exposure, by age 14. 39% of females in the sample reported such exposure.

➢ **Older adolescents are more likely to be exposed to and seek out online pornography, and are more likely to be exposed to unwanted pornographic content. Unwanted exposure may be due to increased Internet use (particularly file-sharing and downloading activity), while wanted exposure may reflect age-related, developmentally appropriate sexual curiosity.**
  - o **ISTTF:** Pardun 2005; Sabina et al. 2008; Wolak et al. 2007b; Ybarra and Mitchell 2005
  - o **EUKO:** Older youth encounter more online risks, including pornographic content, than younger youth.
  - o **Recent Research:**
    - Brown and L'Engle 2009- Youth reporting exposure to sexual content in the sample (ranging from 12-15) tended to be older adolescents.

➢ **Internet use may not increase the risk of exposure to pornographic content among younger youth, as more children under 14 reported offline exposure (including nudity on TV and in movies) than online exposure.**
  - o **ISTTF:** Ybarra and Mitchell 2005; Pardun et al. 2005
  - o **RAICR:** More Australian teenagers reported viewing pornography though videos than through the Internet, but in a survey of multiple generations, exposure to pornography in Australia has occurred at a younger age with each recent generation. Researchers also suggest that online pornography may be more varied and problematic in terms of access to paraphilic or violent sexual content.
  - o **Recent Research:**
    - Brown and L'Engle 2009- Males reported the majority of their pornographic exposure from online sources as opposed to magazines or films. Alternately females reported more exposure from offline sources. The survey asked about watching X-rated films or viewing pornographic magazines or online content in the past 12 months, and may have resulted in reports of both wanted and unwanted exposure.

➢ **ISTTF was unable to find research on exposure to violent content online in the US, but a UK study found that 31% of youth reported exposure to violence online.**
  - o **ISTTF:** Livingstone and Bober 2004

- o **EUKO:** Approximately one third of UK teens see violent or hateful content (Livingstone and Bober 2004), but little research has been done on the nature and scope of such exposure.
- o **RAICR:** Data has not been collected on violent online exposure in Australian youth.
- o **Recent Research**:
  - Ybarra (Unpublished CDCP Presentation, 2009)- Approximately 40% of US youth surveyed, aged 10-15 years, reported exposure to any violent website in the 12 months prior to the survey. This statistic was reasonably stable across the 24 months of the study.

- ➢ **Limited research is available on youth-generated problematic content (fight videos, pro-ana/ mia and pro-self-harm sites, pornographic images of the child or their friends, etc.). The ISTTF Report, EU Kids Online, and RAICR all noted a need for increased research in this area.**

Major Findings from Recent Research

Sexual Solicitation and Internet-Initiated Offline Encounters

➢ **Swedish reports of online-initiated sexual offences closely mirror trends found in the US.**

Based on police reports from January 2004 to September 2006, Shannon (2008) identified 315 incidents involving online or offline sexual encounters with minors initiated through online contact. In 179 cases, the perpetrator and victim had only been in online contact, and in 45 cases, contact occurred online as well as offline (including through phone conversations) but no clear indication of sexual offences could be found. In 22 of the cases, the perpetrator already knew the victim offline and used the Internet to groom them for a sexual relationship. Finally, in 69 cases, the adult perpetrator met the victim online and groomed them for sexual encounters, with a subsequent sexual offence occurring in at least one offline meeting.

Analysis of police reports revealed that all suspected perpetrators were male, with 90% over age 18 and 30% age 35 or over. Over 90% of victims were female, with 60% of victims between ages 11 and 14 (as the age of sexual consent in Sweden is 15). The proportion of youth under age 13 was higher for offenses committed only online (44%) but dropped significantly to only 8% in offline meetings.

Online offenses generally involved the offender making sexual comments or jokes, sending pornographic material to the child, attempting or actually persuading the victim to pose nude or semi-nude in front of a webcam, or the offender exposing himself to the victim via webcam. Often online offenses consisted of a combination of these elements, with some cases of the victim being paid for their actions, or being blackmailed by pictures or content in order to engage in other online sexual activities.

Cases with both online and offline contact generally included Internet communications as well as phone calls and text messages. In cases where the offender and victim met in person offline, there was a greater incidence of repeated and prolonged contact, with 30% of cases revealing over a month of contact, and 10% revealing over a year of interactions. In some cases, communication only lasted a few weeks before an offline sexual encounter, and the victim met the perpetrator more than once for sexual acts. In such cases, the reports indicate that the victims faced psychiatric, social, and familial problems.

Cases of offline contact generally involved less webcam-based interaction, but more exchanging of sexual photographs, more sexual conversations online, and a greater rate of voiced desire to meet and have sexual intercourse with the victim. Of the 45 cases of offline contact, only 18% went to meet the adult offline. 27% of offline cases involved the adult offering to pay the child for sexual services. Adults also used the Internet to build a sexual relationship with children they previously knew offline, though most of these were only acquaintances (only 2 were family members).

The most common group of offline offenses (29 cases) involved teenagers who had been encouraged to form a romantic or friend-based attachment to an adult. Adults commonly claimed to be a younger than their true age, but rarely claimed to be the same age as the victim. Adults

often contacted children for 6 months or more before the offline sexual encounter occurred, and some victims reported falling in love with the perpetrator.

Of offline offenses, approximately one quarter involved female victims between 15-17 years old, with a slightly older perpetrator, aged 15-22. In these cases, the perpetrator, generally 2 years older than the female victim, met the victim offline after online interactions and subjected the victim to unwanted sexual touching or forcible sexual acts. The females often reported being drunk or asleep at the time of the assault, which was almost always during the first offline encounter. Seven victims agreed to meet offline after being promised modeling work. When they met the offender, they were then subjected to unwanted sexual touching or, in two cases, forced sexual intercourse. Nine children agreed to meet the adult after being promised payment for sexual acts.

Shannon (2008) notes the common theme of perceived safety in reports of children who met adults offline. In the majority of cases, the child believed they knew the perpetrator's character, and reported feeling unsafe or uncomfortable when actually meeting the perpetrator. In some cases, the victim arrived at the location where they were to meet the adult and either left before the adult saw them, or got away from the perpetrator when they were subjected to unwanted sexual advances.

➢ **Youths utilizing a web-based support site reported romantic relationships established online both with peers and older men.**

In a qualitative analysis of youth postings on a web-based counseling service, Mishna et al. (2009b) found that youth seeking advice and support online frequently report romantic or sexual interactions online involving peers or older men. Based on their posts, the authors posit that youth engaging in online sexual behaviors are also facing challenges in their "real lives," noting that youth claim their sexual interactions are a way to distract themselves. The authors suggest that youth who have more difficulties in their lives may be more likely to engage in sexual acts online, as well as in person with people they have met online. After engaging in cybersex, the reflections of the youth varied from believing they were ready for offline sexual encounters, to feeling uncomfortable with the online act.

Youth on the site also expressed hesitation to report uncomfortable online interactions to their parents, fearing that their parents would be ashamed or upset, and possibly take away their computer privileges.

➢ **Discussions with children aged 10-14 revealed naïve conceptions of online risk, but awareness of the existence of online predators.**

In a UK-based study of the effectiveness of an online safety intervention, Davidson and Martellozzo (2008) examined students' initial knowledge and beliefs about online safety. Five percent of the students in the sample reported online interactions where the person they were chatting with discussed sexual content or asked them sexual questions. Most children said they exited the chat and told a parent. The authors noted that, while some behaved with maturity when chatting with someone with sexual interest, most of the children believed they would be able to tell if the person they were chatting with was in fact a child. They claimed that the language used would indicate whether the person was the age they claimed to be.

Children in the sample believed the male children were not likely to be targeted by online offenders, stating that boys were stronger and more able to defend themselves. They also recognized that most stories in the media regarding online solicitation involved male perpetrators and female targets.

> **Research continues to support the finding that youth facing difficulties offline are at greater risk online.**

Wells and Mitchell (2008) found that 15% of their sample of American youth reported experiencing sexual or physical abuse or high parental conflict within a year before the survey. These youth were labeled as "high risk" and were disproportionately likely to be older youth, African American, and/or not living with their biological parents.

Youth who were identified as high risk showed significantly more problematic online behavior than the remaining 85% of the sample. High-risk youth were more likely to use chat rooms and blogs, be heavy Internet users, or access the Internet on their cellular phones or at friends' houses. High-risk youth were more likely to talk with people they met online, post or send personal information online, intentionally access pornography and engage in sexually risky or aggressive online behavior. They were also more likely to receive aggressive sexual solicitation than those in the sample who had not experienced sexual or physical abuse and who did not have a high degree of parental conflict. Youth with high-risk, negative offline experiences were 2.5 times more likely to receive unwanted sexual solicitation than other youth, even when controlling for confounding variables. The authors note that the number of solicitations may be higher, as the study only asked about unwanted solicitation, and sexual advances online may not be seen as unwanted by those with a history of problematic experiences.

> **Based on 2006 U.S. data, approximately 33% of arrests for Internet-initiated sex crimes against minors involved social network sites (for cases with identified victims).**

Mitchell et al. (2010) surveyed a nationally representative U.S. sample of over 2,500 local, state, and federal law enforcement agencies. Based on the number of SNS-related sex crimes against minors, the authors estimated that such cases represented approximately 2,322 arrests in the U.S. in 2006. SNS use was present in only 7% of arrests for Internet-initiated sex crimes against identified youth. SNSs were used to make initial contact and arrange meetings in 50% of cases involving SNS. Of these cases, 14% involved victims making contact with perpetrators based on non-sexual shared interests. SNS messages or communication were used in 72% of cases involving identified youth. In 10% of cases, SNSs were used to share information about the victim, such as photographs, which were generally distributed through the profile of the offender, rather than the victim.

Over two-thirds (69%) of offenders used SNSs to gather information about youth victims, primarily to view their likes and interests, and to view pictures. The authors note that the use of SNSs to gather data may have occurred after the relationship was established, as opposed to before making contact. SNSs were also occasionally used to get in touch with the victims' friends, but only in 8% of cases with youth victims. The majority of arrests for SNS-related sex crimes against minors involved undercover law enforcement, representing 73% of all cases

involving SNS. In cases with youth victims, offenders using SNS tended to be younger, and the victims tended to be older youth.

Given the diversity of ways in which SNSs are used to initiate sex crimes against minors, and the number of cases involving SNS, Mitchell et al. (2010) did not find evidence that SNSs are inherently more dangerous than other online activities, such as chat room use.

The authors acknowledge that a significant number of cases involve SNSs, but note that the constantly shifting nature of online interactions makes it more advantageous to target problematic behaviors as opposed to specific online spaces. By the time law enforcement and policy makers fully grasp the dynamics of an environment like SNSs, another means of online interaction is likely to have arisen, and the protective measures developed are obsolete. General tools surrounding online behavior can be applied in a variety of settings and would be more readily adapted to future technologies.

➢ **Social network sites are involved in a greater percentage of arrests involving undercover law enforcement than of arrests for Internet-initiated sex crimes with an identified youth victim.**

When Mitchell et at. (2010) examined 2006 police data on arrests for Internet-initiated sex crimes, the researchers found that 73% of estimated arrests for crimes involving SNS were cases involving undercover operations by law enforcement officers. Of these undercover cases, 82% of contacts were initiated in chat rooms, with the SNS profile as an element of the operation. Of SNS-related cases involving undercover law enforcement, only 7% of cases involved initial contact through the invented minor's SNS.

Online Harassment and Cyberbullying

➢ **Some cyberbullying practices are more commonly reported than others.**

Vandebosch and VanCleemput (2009) found that Belgian students aged 10-11 were most likely to report being victim, offender, or bystander to acts of deception, where the offender pretended to be someone else, or incidents where the Internet or cell phone were used to threaten or insult someone. Other relatively common acts were spreading gossip via the Internet or cell phones, or breaking in to someone's IM or email account and changing the password.

Youth were more likely to report being a bystander of every type of act than to report being a victim or perpetrator. When asked which actions were most hurtful, youth selected actions such as breaking in to a computer and stealing personal information, posting confidential information, or spreading gossip via email or mobile phone. The authors noted that these actions all violate privacy and involve possible observation by a broad audience. Youth in the sample thought the most common behavior, pretending to be someone else online or via mobile phone, was the least hurtful and generally considered funny.

➢ **Youth perceive the growth of cyberbullying to be connected to the prevalence of technology use (Internet and cell phone), as well as the ambiguity of the identity of the cyberbully.**

Mishna et al. (2009c) conducted a qualitative analysis of focus group discussions on cyberbullying with 10-13 year olds in Canada. While some participants did not think that cyberbullying was common, others noted that cyberbullying was "non-stop bullying," supporting the authors' concern that cyberbullying expanded the opportunities for harassment beyond the school setting. Children in the focus groups reported anecdotal evidence of technology use at increasingly younger ages (through younger siblings going online, for example), and claimed that they and their friends used the computer for at least three hours a day, and often broke school bans on cell phone use. The authors viewed this as evidence of an invasive problem, with cyberbullies violating the assumed safety of the home environment.

Youth believed the anonymity of technology-facilitated cyberbullying, with weaker children being empowered by technology to bully without the pressure of face-to-face interactions. Participants perceived cyberbullying to be anonymous, even though they reported that most incidents occurred within friend groups. They noted that password sharing is common among friends, and that cyberbullies may hack into others' accounts, or may claim that their account was hacked by another person when cyberbullying occurred. This makes it difficult to determine who actually participated in cyberbullying behavior.

➤ **Parents appear to have different perceptions of the rate and seriousness of cyberbullying than their children.**

When Mishna et al. (in press) asked Canadian children whether they had experienced cyberbullying, 49% of their sample reported cyberbully victimization, but 17% of parents reported that their children were victims. 34% of the sample also admitted to cyberbullying others, whereas 5% of parents thought their children had been a cyberbully offender. The authors did use different measures with each group, asking students about specific behaviors, and asking parents about cyberbullying in a general sense, but the difference in offender rates is stark.

The authors also found that 80% of parents thought that cyberbullying was just as serious as traditional physical or verbal bullying, whereas only 60% of the children in their sample agreed.

Victims and Perpetrators of Cyberbullying

➤ **Youth who engage in offline and cyber bullying appear more likely to report anger and strain.**

Patchin and Hinduja (In Print) explored General Strain Theory as a model to explain why middle school students engage in traditional bullying and cyberbullying. General Strain Theory suggests that strain causes youth to feel negative emotions, which they then relieve through bullying, but the research showed that strain and anger independently influenced rates of both types of bullying, only partially supporting General Strain Theory in the context of bullying and cyberbullying. The more strained a respondent was, the more anger and frustration he/ she reported. Males reported less frustration than females, and younger youths were less frustrated than older youths.

34% of their 2,000 middle school subjects reported some form of traditional bullying offenses two or more times in the previous 30 days. Over 21% reported cyberbullying others two

or more times in the previous 30 days. Older students and white students were more likely to report participation in bullying.

➢ **Offline bullying and cyberbullying victims and offenders report significantly higher incidences of suicide attempts.**

As Hinduja and Patchin (2010) reported, "Traditional bullying victims were 1.7 times more likely and traditional bullying offenders were 2.1 times more likely to have attempted suicide than those who were not traditional victims or offenders. Similarly, cyberbullying victims were 1.9 times more likely and cyberbullying offenders were 1.5 times more likely to have attempted suicide than those who were not cyberbullying victims or offenders."

Race accounted for a significant portion of variation in suicidal thoughts, with whites scoring significantly lower on measures of suicidal ideation than non-whites, and leaving experience with bullying to explain only a small amount of the variation in suicidal thoughts. Since the authors note that most previous research has shown whites to have a higher incidence of suicidal ideation, they believe it is worthwhile to further investigate the connection between various forms of bullying and suicide attempts and ideation.

➢ **Cyberbullying may lead to negative emotional and psychological outcomes for both victims and offenders.**

Patchin and Hinduja (Under Review) found that middle school students reporting being victims or participants in at least 2 measures of cyberbullying over the previous 30 days also scored significantly lower on measures of self esteem than the other participants.

Previous research showed traditional bullies' self esteem was higher, lower, or not significantly different than the general sample, so this study goes to build support for the model of a cyberbully with lower self esteem, though the relationship between cyberbullying experience and self-esteem is stronger for the victim than for the offender.

Because previous research has shown self-esteem correlates with a number of health and happiness outcomes, it is imperative that schools incorporate cyberbullying and self-esteem into their bullying interventions.

Dempsey et al. (2009) surveyed over 1600 middle school students about the frequency of cyberbullying victimization, and found that cyberbullying victimization was weakly associated with symptoms of social anxiety. They also explored the relationship between cyberbullying victimization and depression, and found no significant relationship.

Perren et al. (Under Review) found a significant relationship between depressive symptoms and both cyberbullying and cybervictimization in a sample of Swiss and Australian youth. They also found that youth who were traditional bullies also showed more depressive symptoms. The researchers found that frequent cyberbullying victimization predicted depressive symptoms in their sample.

➢ **Cyberbullying is distinct from relational and overt victimization, but students who have experience with traditional victimization may be more likely to have experience with cyberbullying.**

Using an adapted questionnaire for establishing levels of relational and overt victimization, and adding behavior-based measures of cyberbullying, Dempsey et al. (2009) found limited overlap between the three forms of victimization among middle-school students. The results suggest that cyberbullying is not just an extension of traditional forms of victimization, though students who experience one may be more likely to experience others.

Twyman et al. (2009) investigated the relationship between online and offline bullying, and found that youth who bully online are more likely than their non-cyberbullying peers to bully others offline as well. Cyberbullying victims were more likely to be victims and perpetrators of offline bullying, indicating an overlap in methods of bullying. That said, half of respondents who had experience with cyberbullying as victim or perpetrator had no experience with traditional bullying, indicating that the two types of harassment are not directly parallel.

In a Belgian sample, Vandebosch and VanCleemput (2009) found somewhat different patterns of online and traditional bullying overlap than Twyman et al. (2009). Vandebosch and VanCleemput (2009) found that youth who were victims of cyberbullying were more likely to report being victims of offline bullying and bystanders or perpetrators of bullying via cell phone or the Internet. In their sample, cyberbully victims were relatively less likely to be offline bullies. Twyman et al. (2009) also found that cyberbullying victims were more likely to be victims of offline bullying, but in their sample, cyberbullied youth were more likely to be perpetrators of offline bullying. Youth who cyberbullied others were more likely to be victims of cyberbulling, and perpetrators of offline bullying. In summary, there is a great deal of overlap between victims and perpetrators, as well as online and offline bullying behavior, but the relationship may vary depending on the sample,

➢ **The rate of cyberbullying may vary by student population and demographics.**

In a study of Turkish public and private school students, Topcu et al. (2008) found that the rate of reported cyberbullying victimization was significantly lower for private school students than for public school students.

➢ **It is unclear whether greater use of online communication tools is associated with increased risk of cyberbullying experience (offense or victimization).**

Twyman et al. (2009) found that youth exposed to cyberbullying as offenders and/or victims were both more likely than non-exposed peers to have a MySpace page and/ or personal email that their parents could not access. Victims were more likely than their peers to have a personal website, more likely to participate in Internet-based social activities, and less likely to complete homework that was not computer-based. The authors suggest that victims may spend more time online overall, thus offering greater opportunity for exposure to cyberbullying.

Mesch (2009) found that youth reporting cyberbullying victimization were also more likely to report greater use of the Internet and cell phone for communication, and more willingness to share personal information online. Specific online activities more often reported by victims include having a profile on a social network site, participating in YouTube, and participating in

public chat rooms. Willingness to share information offline was also linked to greater risk of cyberbullying. Mesch (2009) did find that online gaming was not associated with an increased risk of cyberbullying.

It is worth noting, however, that the author's measure of cyberbullying included whether the subject has been contacted by a stranger, which may not fall under the typical behavioral measures of cyberbullying, and may explain many of the key behaviors reported by the subjects who were coded as victims.

Youth in a Belgian sample (Vandebosch and VanCleemput 2009) who were victims of potentially offensive behavior via mobile phone or the Internet were more likely to report being dependent on the Internet, indicating higher levels of overall use.

In contrast, within a sample of Turkish students, public school students reported significantly higher rates of cyberbullying victimization in spite of the fact that private school students reported a higher average use of Internet-mediated communication tools (Topcu et al. 2008).

> **Youth report frequently sharing passwords with those that they consider to be close friends, which can provide opportunities for online bullying and harassment if social relationships weaken.**

A study of Canadian youths by Steeves and Webster (2007) found that password sharing was a common practice among youths and their friends. Youths surveyed indicated that they shared passwords only with good friends whom they trusted, and that they thought it would be convenient if they forgot their password or needed their friends to access their email account. Unfortunately, as noted by Mishna et al. (2009c), this practice may contribute to certain forms of cyberbullying or other online harassment.

> **Cyberbullies and victims may be more socially active than their peers who are neither cyberbullies nor victims, with many social interactions occurring online.**

Compared to peers who do not have experience with cyberbullying, both victims and cyberbullies reported lower rates of dining out with their families, and were significantly more likely to spend 4 or more hours per week with a boyfriend or girlfriend (Twyman et al. 2009). In addition, victims were more likely to engage in online social activities, and both victims and bullies were more likely to use social network sites and have email accounts their parents could not access. The picture that emerges is that of youth who spend more time engaging in unmonitored social interaction with peers, particularly through the Internet. Twyman et al. (2009) included in analysis students who reported being both victims and perpetrators of cyberbullying, which may explain the similarities in social function and online behaviors between the two groups.

Vandebosch and VanCleemput (2009) found that youth who engaged in potentially offensive behavior via the Internet or mobile phones were generally more socially competent than their peers, and were more likely to use their mobile phone. Victims were more likely to report being dependent on the Internet, and were also more socially competent than their peers. The authors note that a higher rate of social interactions, many of which occur online, may offer more

opportunities to encounter online behaviors that could be offensive, but were not hurtful in the context of the interaction.

Topics in Cyberbullying Research

➢ **Cyberbullying rates are difficult to generalize, and tend to vary, due in part to the variety of methodology used in studies of cyberbullying.**

In a presentation at the COST Action IS0801 Workshop in Lithuania, Ybarra (COST 2009) presented a review of existing cyberbullying research, demonstrating that comparative research on cyberbullying is challenging due to varying definitions, inconsistent measures and methods, and varying timeframes of measurement. There is no standard definition of cyberbullying, or agreement on what behaviors are considered cyberbullying, and studies vary their timeframe of analysis, as well as the scales for response, location, and the ages sampled, so it is impossible to compare results across multiple studies.

The issue is illustrated through a review of 14 studies on cyberbullying between 1999-2008 show varying prevalence rates between 6 and 72% of youth (average 23%). Timeframes varied from "ever" to "within the last semester" or "last few months," though this did not seem to yield different prevalence rates. Some studies only listed behaviors (with the number of items included in the measure varying by study), others only included a definition, and some included both. Behaviors and definitions yielded similar results, but make it difficult to compare cyberbullying activities across studies. Differences in sample selection created notable differences in reported prevalence rates. Samples based on self-selection tended to show higher prevalence rates (72%) while random samples showed lower rates.

The Growing up with Media survey asked youth 10-15 years old how often within the last 12 months they had been harassed or bullied on various media using a definition-based measure. In 2007, 12% of youth surveyed said they were harassed or bullied once or more than once in the last 12 months. In 2008, that rate rose to 15%. In 2007 and 2008, 3% said they experienced harassment monthly.

When the survey was administered using behavior-based measures, the reported incidence generally increased. Cyberbullying prevalence rates for victimization at least once per year were 33% in 2007 and 38% in 2008. Monthly rates were 11% in 2007 and 12% in 2008. This difference in reported incidence was attributed to the high sensitivity of behavior-based measures, but the behavior-based methodology is harder to adapt in the face of changing environments, technologies, and behaviors. In addition, more items on the list may inflate the prevalence rates by offering more opportunities to say yes to any item.

Vandebosch and VanCleemput (2009) noted the same issues in defining cyberbullying and the fluctuations in rates of reported incidence depending on methodology. In their investigation of Belgian youth aged 10-18, they found that when asked to report whether or not they had experienced bullying through the Internet or a cellular phone, the responses were significantly lower than when they asked whether they had been the victim of a problematic practice via the Internet or a cellular phone.

The authors intentionally neglected to provide a definition for the term bullying or cyberbullying, apart from specifying the medium of cellular phones or the Internet, based on

their previous finding (detailed below) that children's intuitive definition of the term cyberbullying was consistent with elements of major researchers' definitions (Vandebosch and VanCleemput 2008). The authors noted that by not providing a definition, it allowed subjects to account for context to determine whether or not an event was considered bullying.

> **Children seem to have a definition of cyberbullying that is comparable to the most common research definition, featuring repetition, intentionally hurting the target, and an imbalance of power.**

Vandebosch and Van Cleemput (2008) interviewed 279 Belgian youths between ages 10 and 18 to learn how they viewed cyberbullying. The majority of respondents held the view that cyberbullying was simply bullying via the Internet, but the researchers found that many of their examples of cyberbullying fit the general definition for cyberbullying used by researchers in the field. The examples mentioned in focus groups generally supported the definition of cyberbullying as actions intended to hurt the victim, which the victim perceives as hurtful. Actions must occur repeatedly in the context of a pattern of negative behavior online or offline to be considered cyberbullying, as opposed to teasing. Cyberbullying also differed from general online teasing in that the perpetrator and victim are generally familiar with each other offline, even if the identity of the perpetrator is unknown. Finally, cyberbullying requires a power imbalance, with the victim perceived as being weaker than the aggressor. In the case of cyberbullying, a power advantage could be gained simply through anonymity or greater technological knowledge.

Youth who gave specific examples of cyberbullying experiences noted that many incidents are related to instant messaging. Many youth reported hacking incidents where someone might hack into an IM account, change the password, delete contacts, and/ or send embarrassing content to contacts. Other examples cited were sharing personal conversations or gossip with others online, making humiliating websites, sending threatening or sexual messages, and receiving unwanted or threatening calls via cellular phone.

Exposure to Problematic Content

Pornographic or Sexual Content

> **Youth posting on a support website's discussion board reported being troubled by both wanted and unwanted exposure to online pornographic content.**

Mishna et al. (2009b) found that youth who accidentally accessed pornography online reported being "freaked out" by the incident, while some youth say they have become addicted to online pornography, and are concerned. The postings of the intentional viewers indicate confusion caused by the message parents send that viewing pornography and/ or masturbating is wrong, while also being told that sexual curiosity and development is normal. Youth (generally male) posted saying that they wish they could stop because they are afraid of getting caught, but they feel addicted. Despite some posts reporting frequent use, the general opinion of youth on the

discussion board was that children should be protected from exposure to online pornography, particularly unwanted exposure.

➢ **Filtering, blocking, and/ or monitoring software is reported in over 1/5 of U.S., E.U., and Australian households. Such software may prevent exposure to sexual content online.**

Ybarra et al. (2009) found that filtering, blocking, and monitoring software use on the home computer is significantly correlated with a reduced risk of youth exposure to wanted and unwanted sexual content online on that same computer.

Forty-three percent of youth reported having blocking, monitoring, or filtering software on their home computer, and 32% reported a spam or pop-up blocking software. When controlling for effects due to household factors, caregiver interactions/ conversations, gender, and age, the only factor that remained significant after considering software use was caregiver conversations with the youth about individuals online who may want to contact them for sexual purposes.

The use of blocking, filtering, or monitoring software most strongly correlated with reduced exposure among younger subjects, aged 10-12 and 13-15. Among older subjects, aged 16-17, blocking, monitoring, or filtering software was not correlated with a significant reduction in exposure to wanted or unwanted online sexual content.

In the EU Kids Online final report, Livingstone and Haddon (2009) found that 49% of parents with Internet in the home reported having filtering software, 37% said they use monitoring software, and 27% use both.

According to Dooley et al. (2009), 20-35% of households in Australia report the use of Internet filters. The authors note that this data is comparable to Internet filter use in the US and Europe.

➢ **Youth reporting exposure to pornographic content appear more likely to be African-American, male, older adolescents, lower-SES, and have a higher need for sensation.**

In a study on adolescent exposure to sexually explicit content, Brown and L'Engle (2009) found that youth reporting a higher level of exposure to pornographic media were more likely to be older youths, be African-American, and have families where parents are less-educated and from a lower socioeconomic background. In addition, both males and females in the study who reported greater exposure to sexually explicit media showed a higher need for sensation. The authors note that, while males reported higher overall levels of pornographic media use, the general demographic trends were significant in both genders.

➢ **Viewing pornographic content may be related to adolescents' subsequent attitudes regarding gender roles and sexual behavior, including sexual violence or harassment.**

Brown and L'Engle (2009) collected longitudinal data from adolescents asking them to report exposure to sexually explicit media and conducting follow-up interviews 2 years later to gather information on their sexual behaviors and attitudes. The researchers found that males and females who had seen pornographic content early in adolescence were more likely to report

having had sexual intercourse and oral sex two years later, and had less progressive attitudes regarding gender roles than peers who had not reported exposure to pornography earlier in their youth. In addition, males who viewed pornography in early adolescence were more likely to have more permissive sexual attitudes and to be perpetrators of sexual harassment. The authors suggest that these outcomes are the possible result of a sexual socialization that occurs when youth learn about sexuality through pornographic content, and the behaviors they see are assumed to be normal.

Peter & Valkenburg (2009) conducted a longitudinal study of adolescents' intentional exposure to sexually explicit Internet materials (SEIM) in the Netherlands. The authors found that adolescents (aged 13-20) who viewed SEIM more frequently reported subsequent dissatisfaction and unhappiness with their sex lives when surveyed both 6 months and one year after SEIM use data was first gathered. Using the framework of social comparison theory, the authors suggest that SEIM serves as a benchmark for youth, who assess their sexual lives in comparison with the pornographic content they view, and find themselves and/or their partners wanting. The effects of SEIM use on sexual satisfaction were the same for both male and female participants. The data offered some support for the moderating effect of sexual experience in the second half of the study, as participants who reported more sexual experience were not as likely to feel sexually dissatisfied after viewing SEIM.

The United Nations report on child pornography (Maalla 2009) notes that exposure to child pornography, much of which contains graphic depictions of sexual abuse, may normalize the behavior. As many children are forced to pretend to enjoy the act, those viewing the images may believe that the child was a willing participant, and the report raises concerns about the possibility that such exposure may be part of the sexual socialization of youth who encounter images of child pornography.

Child Pornography

➢ **Webcams are sometimes used to facilitate "flashing" amongst youth, where the victim is either unwillingly exposed to nudity by the perpetrator, or is coerced into exposing themselves to the perpetrator.**

In the Canadian cyberbullying focus group led by Mishna et al. (2009c), one practice reported was flashing, where the victim was often coerced into exposing him or herself to someone (generally a peer) online through a webcam. The perpetrator generally threatened to reveal secrets unless the victim flashed, and the image could be recorded and distributed.
Other incidents of flashing involved the victim entering a video chat and being flashed by the person they were chatting with. Focus group members believed that people could send a computer virus which would allow them to turn the victim's webcam off and on at will, risking unwanted viewing.

➢ **The Internet's role in the spread of child pornography is of international concern, primarily because of the violation of victims' privacy and the dissemination of images of child abuse.**

In a report to the United Nations in July 2009, Najat N'jid Maalla assessed current issues regarding child pornography, particularly the spread of images through the Internet. As part of the Convention on the Rights of the Child, the report notes that child pornography is a version of child exploitation. The Convention on the Rights of the Child has developed protocol for the member States to ensure that each State includes child pornography under criminal law, and to prevent the creation and dissemination of child pornography on the Internet.

The special rapporteur noted that the number of websites identified by the National Center on Missing and Exploited Children as containing child pornography had reached nearly 600,000 as of April 2009, with pictures in circulation containing explicit images of prepubescent children and infants. The Internet Watch Foundation reported that the percentage of non-commercial websites depicting child abuse had risen between 2007 and 2008. This indicates that the Internet is being used more for sharing and exchange of images, though the total number of sites reported to the IWF decreased from 2,755 domains to 1,536 domains in that timeframe. IWF reported that the number of actual photographs available online quadrupled between 2003 and 2007, but there is no data to indicate how many of these images are duplicates. Little is known about the number of victims of child pornography let alone how these numbers change over time.

Accorting to Maalla (2009), the creators and distributors of child pornography are often known to the child exploited in the image, with 37% of perpetrators being family members and 36% acquaintances. The special rapporteur noted that child pornography is particularly traumatic to the child, as it provides a lasting reminder of the abuse suffered, and the rapid circulation of content through online sharing sites makes recovery much more difficult for the victim. Victims may face further psychological strain if they were told to pretend to enjoy the abuse, making it more difficult to go to parents or police for support.

The report notes that legislation and definitions of pornography vary from country to country, and that prosecution and identification of victims is difficult because of the ability to send images internationally with the aid of the Internet. In order to track child pornography, Internet Service Providers must aid police and, in some countries, are required to share user data with law enforcement without a court order. Image banks have been developed by INTERPOL and similar organizations to identify images of the same victim or in the same location, helping to identify victims and perpetrators.

Of primary concern to the special rapporteur is the lack of adequate support for victims, and of adequate protection for youth online, who may be exposed to unwanted pornography or grooming attempts. The author suggests involving youth and the private sector in subsequent discussions in order to understand and minimize current risks and prevent future abuses.

Violent Content

> **Exposure to violent content within one form of media appears to correlate with exposure to other forms of violent media.**

In a presentation at a Media Violence Research Meeting at the CDCP, Ybarra (Unpublished CDCP Presentation, 2009) shared research showing that violent media use was "strongly related across different types of media." Violent media exposure was fairly consistent within the sample between 2006 and 2008, with females consistently less likely than males to have exposure to

violent media. Youth in the study most commonly reported exposure to violent news media, violent cartoon sites, and any x-related site. Least common types of exposure were hate sites, death sites, satanic sites, and violent x-related sites.

Correlations were found in general media use between music and texting, music and Internet use, and among various forms of gaming. In terms of violent media use, music and TV were significantly correlated with each other, as well as with video, computer, and Internet games. Violent gaming on the Wii correlated with violence in MMOGs, as well as video, computer, and Internet games. Viewing violent cartoon websites correlated with MMOGs, computer, and Internet games, and websites containing violence toward real people.

➢ **Exposure to violent media appears to vary by personal factors such as age, gender, race, and reported substance use.**

In research by Michele Ybarra and Marie Diener-West (Unpublished APHA Presentation, 2008) violent media consumption varied significantly by age and gender, with older youth and males reporting greater violent media consumption. Race was also a factor, with non-Hispanic white participants at the lower end of violent media consumption, and Hispanic youth at the higher end. Alcohol and marijuana use both correlated with higher violent media consumption, as did witnessing an attack or spousal abuse in real life. Violent media exposure correlated with a higher tendency to respond to stimuli with anger, while emotional closeness with a caregiver correlated with lower violent media consumption.

➢ **There appears to be an association between exposure to violent media and violent, aggressive, and/ or delinquent behavior.**

Ybarra (Unpublished CDCP Presentation, 2009) examined 1-year prevalence rates of violent behavior, including physical and relational bullying, sampling the same population over 2 years. Males and females showed less variation in violent behavior as the cohort aged, and the associations found between violent media and violent behavior/ aggression/ delinquency were stronger for 13-15 year olds than for 10-12 year olds. It was also stronger for females than for males and stronger for youth with a response to stimuli with anger that is 2 standard deviations above the mean.

Research by Michele Ybarra and Marie Diener-West (Unpublished APHA Presentation, 2008) found that youth reporting higher levels of violent media consumption were also more likely to report seriously violent behavior, infrequent and frequent bullying, and infrequent and frequent fighting. Youth reporting that almost all or many of the media they consume contains violent content were significantly more likely to report seriously violent behavior, infrequent and frequent bullying, and infrequent and frequent fighting. Youth noting some of the media they consume contains violent content were in the mid-range of aggressive behaviors, with youth saying almost none or none at the lowest range of aggressive behaviors.

Though the one-time sample of this study makes it impossible to determine a causal relationship, the results suggest that limiting exposure to violent media, even moving youth from the "Most/ Almost all" rating section to "Some", may have a significant impact on aggressive behavior in youth.

> **There appears to be no evidence that active violent media has a stronger impact on violent, aggressive, and/ or delinquent behavior than passive violent media.**

Ybarra, Korchmaros, and Mitchell (Unpublished SRA Presentation, 2010) found that substantial numbers of participants in a longitudinal study reported violent content in their consumption of both passive media (TV, music) and active media (games and/ or websites). In their sample, 7 - 12% of youth reported that almost all or all of the passive media they consumed depicted physical fighting, hurting, shooting, or killing, and 10% reported that all or almost all of the active media they consumed contained such violent content.

When analyzing violent media's impact on youth behavior, the researchers found that passive and active media violence had comparable rates of influence on the rise in seriously violent behavior in youths surveyed over time. The data also revealed comparable but smaller rates of influence of both forms of violent media on the change in aggressive and delinquent behavior over time.

Over half of respondents were also exposed to at least one type of violence in real life during the 12 months prior to the survey date, but the association between violent media and seriously violent behavior remained, even after accounting for exposure to violence in real life.

Suicide Information

> **Searching online for the term suicide or information on suicide methods returns results including chat rooms / websites both encouraging and enabling the act of suicide, and discouraging suicide and offering emotional support or resources.**

Biddle et al. (2008) used popular UK search engines (Yahoo, Google, MSN, and Ask) using 12 suicide-related terms, and found very diverse results in the websites the search returned. Of the 240 different sites found, 90 of them were dedicated to the topic of suicide explicitly, and half of those were "judged to be encouraging, promoting, or facilitating suicide." Of the remaining 45 suicide sites, 43 contained the pros and cons of methods of suicide, but with a neutral attitude toward the act. The final two spoke of suicide and self-harm in terms of being "fashionable." 12 hits were chat rooms or discussion board devoted to discussions about suicide methods, and other sites spoke of suicide in a factual way, or in a way that was wholly or partially joking. 62 sites focused on support and prevention of suicide, while another 59 forbade or discouraged suicide explicitly. In all, just under half of the pages reviewed contained information about methods for suicide.

The authors noted that the type of site returned varied by the type of search engine used. Google and Yahoo returned the greatest number of dedicated suicide sites, while MSN returned the most prevention and support websites. Since most of the devoted suicide pages were in the top few items returned, the authors suggest that search engines consider reordering their search results to place support and prevention sites at the top of the results list, where they are more likely to be accessed.

Youths' Risk Perception and Protective Behavior

> **Youths' greatest online concerns often, but not always, overlap with what adults perceive to be the greatest online risks to children.**

In 53 focus groups of Belgian youth aged 10-18, Vandebosch and Van Cleemput (2008) noted how often various topics of concern came up with regards to communications technologies. The most common concern, shared by many adults, was being contacted by strangers. The next most common concerns were viruses and hacking, two issues adults may not consider when thinking of children and the Internet. Less than half of the focus groups involved discussions of pedophiles online or cyberbullying, and less than one third mentioned threats via technology, spam, stalking, online advertising, sexual intimidation, pornographic websites, unwanted webcam use, expense related to ICT, technical failures, and health-related issues. Only 3 focus groups raised concerns about the content of specific websites.

> **Youth displaying one potential online risk factor (such as posting a picture online) may be more likely to engage in other behaviors that may put them at risk for sexual solicitation, exposure to pornography online, or online harassment.**

Dowell, Burgess, and Cavanaugh (2009) used a modified version of the Youth Internet Safety Survey to examine the online behaviors of 404 students from the American Northeast, with an average age of 12. The authors observed some gender differences in use, primarily that girls reported spending more time online, having more email addresses, and being more likely to get in trouble at home for spending too much time online. Boys, on the other hand, were more likely to get in trouble for looking at pornography on the Internet, and were more likely to use the Internet for gaming as opposed to instant messaging.

When examining risky behavior, the authors found that youth who posted a picture online were more likely to engage in other indicators of risky behavior, including posting their email address or the name of their school, sending a picture to someone they met online, receiving an IM or email from a stranger, and feeling threatened online. They also were more likely to report playing jokes or harassing others online, both friends and family as well as strangers. Youth who posted pictures were also more likely to seek out information on sex or sex-related websites online, as well as talk about sex while online. Finally, they were more likely to attempt to override any existing computer filters or blocking software, an act more commonly reported by boys than by girls.

While the authors note that one risk factor such as posting a picture online does not indicate high risk, their findings suggest that there is a cluster of risky Internet behavior, and posting a picture online is one part of that cluster.

Along a similar vein, Steeves and Webster (2007) found that Canadian youth who were more protective online (did not trust the Internet as a safe place to share secrets, read privacy policies on websites, etc.) were also less likely to disclose personal information via the Internet. That said, the authors also found that over 75% of youths would give out their full name and personal information such as an address or email address to create an online profile or receive a free email account.

Steeves and Webster (2007) also found that privacy-risky behaviors increase with age. 17-year-olds in the sample were significantly more likely to share personal information online, and were less likely to engage in privacy-protective behaviors. Unfortunately, the authors found that older youths were also more likely to engage in risky behavior such as accessing pornographic content or visiting adult chat rooms.

➢ **Children's actions online may vary by the degree of risk they perceive in a particular online activity.**

The Canadian youths surveyed by Steeves and Webster (2007) were more likely to share personal information in online places they perceived as less risky, such as their own website or to enter online contests. They were less likely to disclose personal information on dating sites or chat rooms, for example, where they perceive such disclosure to be more risky. Youth who reported more social confidence also reported greater risk-taking in personal disclosure online, and youth who engaged in more social interactions online were more likely to be at the higher end of the spectrum for disclosure of personal information.

➢ **Boys may be more likely to disclose personal information online than girls.**

Steeves and Webster (2007) found that boys in their sample of Canadian youths were more likely to take risks with online privacy, sharing information online more than girls in the sample, and taking fewer protective measures regarding online privacy.

➢ **Cyberstalking incidents were reported by youth, primarily females, on a web-based support site, despite youth perceptions of caution when sharing information.**

Youth on the support site examined by Mishna et al. (2009b) generally believed themselves to be cautious in sharing information, but inadvertent transmission of information was common, and friend groups occasionally revealed information about users. While victims of cyberstalkers claim they began with conversations with people who seemed friendly and nice, youth were startled to find that the cyberstalker knew details such as their name, school, web service, and occasionally, home address. Despite their belief that they had not shared information, the researchers were able to glean personal information from youth's screen names and personal websites, indicating that they may not be as discrete as they believe themselves to be.

➢ **There is evidence to suggest that youth have become more cautious about publicly accessible content on their social network site profiles over time.**

Patchin and Hinduja (2010) visited a random sample of over 2,000 MySpace profiles in 2006, and again in 2007, and found that youth are relatively conservative about the content they post, while many youth seem to be deleting or abandoning their profiles. 10% of the profiles from the original sample had been deleted, and 37% of profiles had not been logged in to since the first sampling in 2006. Of those still active, 42% were set to private in 2007, up from 39% in 2006.

Half of the profiles had age listed as under 18, with 5% showing evidence of age inflation. 57% posted at least one picture, but only 3% showed the youth in their swimsuit or underwear,

and even less showed their friends in swimsuits or underwear. Swear words were relatively rare, more likely to come from comments by friends than the content of the profile itself, and "few of the profiles included evidence of alcohol (8.6%), tobacco (3.0%), or marijuana (1.2%) use" (Patchin & Hinduja, 2010).

Youth were not likely to display personal information, with less than 1% giving an email address or phone number, less than 7% listing a full name, and approximately 11% listing their school. More youth listed their full name in 2007 than in 2006, and posted more pictures, but they used significantly fewer swear words in the second visitation study.

Madden and Smith (2010) found that young adults (ages 18-29) are more likely than older adults (30+) to take steps to limit the amount of personal information available about them online, to change their privacy settings, to delete unwanted comments, and to remove their names from photos in which they are tagged. While they have no data on younger youth, their trends suggest that youth are more actively engaged in reputation monitoring than older adults, presumably because of greater familiarity with the technology.

Risk-Mediation and Intervention Efforts

The Role of Parents

> **Parental restrictions may have some impact on children's risk of online harassment, but youth in general are unlikely to report online victimization to their parents.**

Mesch (2009) found that youth 12-17 who reported no experience with cyberbullying were more likely to report filtering software on their computer, as well as parental rules regarding what websites they could visit, how much information they could share, and how long they could be online. Non-victims were also more likely to have the computer in a shared space, and report that their parents monitored their activity and/ or checked the websites they had visited.

When examining the ability of these factors to predict cyberbullying victimization, the only parental mediation factors that were significant predictors were when the parents of boys created rules about and monitored the sites their sons visited.

In other research, youth who were cyberbullied were hesitant to report the incident to their parents, believing that their parents did not understand the social world online, and fearing that their parents would take away their online privileges (Mishna et al. 2009c). Furthermore, due to the uncertainty of the perpetrator's identity, youth did not believe the cyberbully would be punished or caught, and did not think the bullying behavior would improve if they reported the incident.

The EU Kids Online final report (Livingstone and Haddon 2009) found that parents believed their children were more at risk when using the Internet at home than at school. The authors suggested that this belief may be due to a lack of awareness of what their child was doing on school computers, or the fact that children are often unsupervised while on their home computers. It was posited that other locations may be more risky, such as Internet cafes, or

friends' houses. Twenty-seven percent of parents said that their children came to them when they encountered a problem on the Internet, but these problems were generally regarding a virus or searching for content. Few parents reported children coming to them for help with unwanted sexual content or online harassment.

Livingstone and Haddon (2009) dedicate a significant amount of the report to the effect of parental mediation on youth online risk, and note that parents who use the Internet more make more efforts to mediate their children's Internet use. There were some exceptions in Nordic countries, for instance, where the general cultural attitude is more laissez-faire. Parents in more relaxed countries placed fewer restrictions on Internet use, despite significant parental Internet experience. Parents who mediated Internet use generally did so either by restricting and rule-making, by applying filtering or monitoring software, or by making it a social or learning experience, where they made a point of talking with their children. Parents in countries where Internet use is more recent were more likely to restrict television use than Internet use, which was interpreted as an indication that they are willing to regulate media use but are not as familiar with the risks of the media and the potential need for Internet restrictions.

Australian data shows that 20-35% of households report the use of Internet filters. Among parents who do not use filters, the primary reason they provide is that they trust their children (Dooley et al. 2009). Parents who reported high degrees of concern regarding child safety and online risks, had a low degree of trust in their child's appropriate use of the Internet, and significant knowledge about youth online behavior were more likely to report the use of Internet filtering software.

Steeves and Webster (2007) reviewed the effects of parental monitoring on risky online behavior in Canadian youths aged 13-17. They found that youths who reported higher levels of parental monitoring also reported less willingness to disclose personal information online, and greater protective behavior, such as reading privacy policies online and refusing to share secrets online. Protective behavior decreased in older teens in the sample, who were more willing to share information and were also more likely to have personal computers. The decrease in protective and privacy-preserving behavior may be related to the subsequent decrease in parental monitoring of personal computer use. Steeves and Webster (2007) also found that youths who engaged in higher levels of social interactions online or who engage in identity play, such as pretending to be other genders or have other skills or personalities, were more likely to disclose personal information online. This trend was significant even when controlling for levels of parental monitoring, indicating that parental involvement is helpful, but not sufficient to protect children from online privacy risks.

Vandebosch and VanCleemput (2009) found that children in their Belgian sample (aged 10-11) who admitted to cyberbullying behavior were more likely to report low levels of parental involvement in their Internet use. The authors suggest that lack of supervision offers children the opportunity to engage in potentially offensive behaviors.

➢ **Parents and children seem to disagree on the level and type of parental interventions reported, as well as on what would be effective in reducing risky behaviors.**

Mishna et al. (in press) found that 80% of Canadian parents surveyed reported supervising their children's Internet use, while only 30% of those children (grades 10 and 11) reported parental monitoring of their online activities. Similarly, 69% of parents noted that they could protect their child from inappropriate material online, while only 36% of their children reported the use of blocking software to do so. The questions asked to parents and children were not completely parallel, which may account for some of the variation, but the findings suggest that either parents over-report monitoring practices, or children are not aware of their parents' actions.

Dooley et al. (2009) reported that, in one survey, all Australian parents claimed to have rules for Internet use in their household, but children were less likely to report having such rules. It is not clear whether this difference arises from an over-reporting of rule-establishment by parents, or a lack of awareness of such rules on the part of the children surveyed.

Byrne and Lee (under review) investigated parents and children's attitudes toward specific interventions for online safety, and found that their preferences varied significantly. Parents were more likely to support co-viewing strategies, and less likely to support government policies or censorship of websites to restrict content. They showed the least amount of support for consequences for children who behaved inappropriately online, whereas children viewed this option more positively, along with programs designed to empower youth online. Children were more in favor of government and industry policies to prevent criminals from going online, and responded negatively to parents friending them, knowing their passwords, or using software to protect them online.

In general, the authors found that empowerment strategies were met with support from both parents and children, whereas co-viewing or parental access interventions were significantly less popular with children while having a great deal of support from parents. Older children were more resistant to the idea of technological interventions, of which their parents were more supportive, following the trend of children eschewing interventions that limited their freedom online.

When the authors examined the influence of the parenting style and communicative state of the households surveyed, they found that parent-child disagreement depended on the relationship between parents and children. Respondents in authoritarian households, where parents have a strong degree of control and limited communication, were more likely to disagree on parental access strategies. The authors noted that such children may resist parental involvement when their parents set strict rules without considering the child's input. Respondents in authoritative households, with clear but fair rules and relatively open communication, were more likely to disagree on the use of technological interventions, possibly because these children are not used to such concrete restrictions.

When children reported difficulty talking to their parents about the Internet, it predicted conflict between attitudes toward most of the techniques examined, including household strategies, technological interventions, parental access, and co-viewing. If parents reported difficulty communicating about the Internet, it only predicted conflict in parental access strategies.

Finally, the Byrne and Lee (under review) examined the interaction between parental ideology and conflict over interventions. If parents reported highly valuing stimulation in their household, it predicted greater disagreement over the existence of legal or school consequences for negative actions online. In households where self-direction was highly valued, children did

not agree with their parents' support of co-viewing strategies. In households with lower church attendance, children were less likely than their parents to support technological solutions or household rules. More conservative parents were less likely than their children to support legal or school sanctions on children's bad online behavior.

> **Based on International perspectives, low parental Internet use may be coupled with higher parental anxiety about their children's Internet use.**

The EU Kids Online report (Livingstone and Haddon 2009) found that nations reporting low parental Internet use tended to report higher parental anxiety about their children using the Internet. The authors suggest that the tendency of media to focus on the risks of Internet use instead of the potential benefits may exacerbate anxiety among parents with limited personal experience online.

The Role of Schools and Law Enforcement

> **Educational interventions regarding online safety and cyberbullying show some success in maturing children's concept of online risks, but limited behavioral change.**

Davidson and Martellozzo (2009) assessed the learning of a 10-14 year old sample in the UK after the Safer Surfing Police Programme intervention in the classroom. Students who received the program were more knowledgeable about safety strategies than those who did not receive the program, but youth still reported a willingness to share personal information if entering a contest, for example. During the intervention, youth chatted with a girl online who was later revealed to be a male police officer in another room. After the intervention, youth were more likely to recognize that people they met online may lie or take on younger vocabulary or mannerisms to appear younger.

Two large qualifiers must be noted about the program's success. The first is that less than one third of the participants informed their parents about the program, indicating that youth do not keep their parents informed about online practices. The authors had noted that the sample believed parents were ill-informed about Internet use, and let them do whatever they wanted online. The second qualification is that the program had only limited applicability in the 10-11 age group, given that most of them did not report chatting or networking online.

Mishna et al. (2009a) conducted an intensive search for research on cyber abuse interventions for youth, and found only three with satisfactory focus and methodology to include in a review of the topic (quasi-experimental or experimental method examining an intervention related to cyber abuse or Internet safety).

One study addressed the success of the I-SAFE curriculum, designed to empower youth to become citizens of the cyber community, encourage online safety and security, including predator identification, and inform youth about intellectual property. Youth in the I-SAFE treatment group showed large gains in knowledge of online safety compared to the control group. They also showed significant gains in intellectual property knowledge, risk management, predator identification, e-mail protocol, and computer virus knowledge. The one area where the

treatment group did not show significant improvement was on measures of inappropriate online behavior.

Another program reviewed was titled Missing, where youth take on the role of a police officer trying to find a teenager who has been deceived by an online predator. On behavioral measures, such as sharing one's city or a description of one's personal appearance, youth in the study generally fared worse in the follow-up assessment than they had in the pre-test. The control groups reported higher levels of disclosure of age and gender, however, so the treatment group still fared significantly better than the control group on a few safety measures. The area in where there was a moderate level of improvement was in their attitudes regarding the safety of the Internet and trust in those they meet online, but these improvements also occurred in control groups, indicating that the cause of the improved attitudes may not have been the Missing intervention.

The final intervention reviewed was the HAHASO program, designed to address traditional and cyberbullying. Youth in the HAHASO treatment group displayed somewhat greater social skills, but little to no change in general bullying attitudes and behaviors. While reports of cyberbullying in the treatment group post-test showed a large decrease, there was also a decrease in the level of cyberbullying reported in the control group as well, and none of the between-group measures reached statistical significance. The authors note that because the research was conducted within one school, it may be possible that information from the program or effects of the intervention spread to impact the students within the control group as well.

Within this review of youth in grades 5-8, there is evidence to suggest that programs like I-SAFE may significantly increase children's knowledge of online safety and appropriate use. Unfortunately, the review does not show strong evidence that such increases in knowledge significantly impact behavior, nor that all programs are effective in increasing knowledge in the area of online safety.

Cultural Differences

> **Online sexuality is not necessarily seen as a risk factor in some cultures.**

In some European countries, such as Norway, there is a sense that sexuality is part of the natural progression from childhood to maturity, and the child is seen as having significant rights and personal freedoms (Livingstone and Haddon 2009). In such cultures, the media has a different view of online risks and reports on Internet use in a way that reflects national and cultural attitudes toward childhood.

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