



UvA-DARE (Digital Academic Repository)

Adolescent sexual risk behavior on the internet

Baumgartner, S.E.

Publication date
2013

[Link to publication](#)

Citation for published version (APA):

Baumgartner, S. E. (2013). *Adolescent sexual risk behavior on the internet*. [Thesis, fully internal, Universiteit van Amsterdam].

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

1

Introduction

Understanding Adolescents' Sexual Risk Behavior on the Internet

The popularity of this new pastime among children has increased rapidly. This new invader of the privacy of the home has brought many a disturbing influence in its wake. Parents have become aware of a puzzling change in the behavior of their children. They are bewildered by a host of new problems; and find themselves unprepared, frightened, resentful, helpless.

Eisenberg, A. L. (1936). *Children and radio programs* (pp. 17-18). New York: Columbia University Press.¹

While reading this quote, the thought may have crossed many that Eisenberg describes common worries about the influence of the internet on today's youth. However, Eisenberg wrote those lines almost 80 years ago, and he was concerned about a medium that today we consider quite harmless - the radio. Yet, it is striking how the concerns of his time resemble today's worries about the influence of the internet (Wartella & Jennings, 2001). As the radio was at that time, the internet is today the most popular media technology among youth. The internet can invade the privacy of children and adolescents more than the radio ever could (Madden, Cortesi, Gasser, Lenhart, & Duggan, 2012). Similarly, there are concerns about the influence of this new medium on the behavior of children and adolescents (Liau, Khoo, & Ang, 2005). As parents 80 years ago, some parents today may find themselves equally "unprepared, frightened, resentful, helpless" (European Commission, 2008; Madden et al., 2012).

¹ As cited in Wartella & Reeves (1985).

Although there seem to be recurrent concerns with the advent of each new medium (Wartella & Reeves, 1985; Wartella & Jennings, 2001), several striking differences between the internet and traditional media technologies emerge. One major difference is that adolescents can play a much more active role while engaging with the internet. For the first time, adolescents may play a crucial role in the creation and distribution of media content online, and they may have contact with a wide range of persons on the internet. Because of its interactive nature, the internet is closely intertwined with the social lives of adolescents.

One major concern about adolescents' online behavior is that adolescents are having sexual encounters with strangers online (European Commission, 2008; Wartella & Jennings, 2001). This online sexual risk behavior involves providing personal information online, talking about intimate, sexual topics with strangers on the internet, as well as searching for sexual partners online. It also includes 'sexting', i.e., sending sexual photos or messages via electronic devices. These behaviors are considered "risky" because they may lead to negative consequences (Lüders, Brandtzaeg, & Dunkels, 2009). For example, by providing intimate information online, adolescents may lose the control over their personal information (Moreno, 2009). Engaging in online sexual risk behaviors may also make adolescents more vulnerable to unwanted sexual solicitations (Mitchell, Finkelhor, & Wolak, 2007; Wolak, Finkelhor, & Mitchell, 2008).

Despite widespread worries about online sexual risk behavior (Madden et al., 2012; Turow, 1999; Wartella, 2001; Ybarra, Mitchell, Finkelhor, & Wolak, 2007), empirical evidence is still scarce. A few early studies have suggested that this behavior is indeed prevalent among US teenagers. For example, the National Campaign to Prevent Teen and Unplanned Pregnancy (2009) reported that 20% of US teenagers engage in sexting. However, there are still several major gaps in the literature. First, almost all studies have been conducted in the United States, making generalizations about European teenagers difficult. In addition, these studies took a predominantly descriptive approach by simply describing the prevalence of this behavior. Moreover, it has been argued that most studies "lack theoretical rigor", and that they ignore the offline lives of youth (Joinson, 2005; Livingstone & Haddon, 2008). Finally, all previous studies have investigated this behavior cross-sectionally, thereby making conclusions about causality and the development of this behavior over time impossible.

Due to these shortcomings in the literature, the public debate about online sexual risk behavior has remained simplified. It is thus necessary to provide a more comprehensive, empirical picture of the role of online sexual risk behavior in the lives of today's youth. By employing a longitudinal as well as a cross-national study in 20 European countries, the main aims of this dissertation are to investigate a) the prevalence

of online sexual risk behavior among Dutch and European adolescents, b) the demographic, cognitive, psychological, social, and cultural predictors of online sexual risk behavior, c) the relationship between online sexual risk behavior and offline sexual risk behavior, and d) the relationship between online sexual risk behavior and negative online experiences.

The dissertation thereby provides an extensive account of the various factors that influence adolescents' engagement in online sexual risk behavior. It also identifies the teens who are particularly susceptible to engaging in online sexual risk behavior, and it provides advice on how to protect vulnerable teens. Overall, the dissertation theoretically and empirically integrates online sexual risk behavior into the broader context of adolescent development and adolescent risk behavior.

Terminology – What is (Online Sexual) Risk Behavior?

There is a long tradition in developmental psychology to study risk behavior among adolescents (Boyer, 2006; Dahl, 2004; Jessor & Jessor, 1977). Adolescents' offline risk behavior comprises many different types of behaviors, such as alcohol or drug consumption, smoking, skipping school, stealing, and practicing unsafe sexual intercourse. Although these behaviors are very different in nature, at least three aspects unite them. First, engagement in all risk behaviors may have negative consequences. These consequences may be health-related, as is the case with smoking or using drugs, legal, social, or psychological. Jessor (1992) concludes that “the term ‘risk behavior’ refers, then, to any behaviors that can compromise these psychosocial aspects of successful adolescent development” (p. 378).

The second key aspect of risk behavior is that it is part of normal adolescent development. By engaging in risky behaviors adolescents test their limits; they experiment with “rules, roles, and relationships” (Siegel et al., 1994, p. 90). Although risk behavior may lead to negative consequences, it may also have positive and adaptive functions for adolescents. Therefore, engagement in risk behavior is not an ‘indication of psychopathology’ (Arnett, 1992, p. 343); instead it is often a normative part of adolescence. Finally, although engagement in risk behavior is generally higher during adolescence, not all adolescents engage in this behavior. Engagement in risk behavior is related to specific demographic, psychological, developmental, social, and cultural factors that in combination explain adolescents' risk behavior (Boyer, 2006; Igra & Irwin, 2003; Jessor, 1992; Kotchick, Shaffer, Forehand, & Miller, 2001).

Many types of *online* behaviors may also be considered risky. In this dissertation, the focus lies on one specific type of online risk behavior, namely online sexual risk behavior. We define online sexual risk behavior as the exchange of intimate, sexually

insinuating information or material with someone exclusively known online. In this dissertation four behaviors were investigated: 1) Searching for someone on the internet to talk about sex; 2) Searching for someone on the internet to have sex; 3) Sending a photo or video on which one is partly naked over the internet to someone only known online, and 4) Sending personal information over the internet to someone only known online. We limit our definition of online sexual risk behavior to sexual communication with *unknown* people for two reasons. First, communicating with strangers is one of the main concerns of parents about their children's online behavior (European Commission, 2008). This concern is based on the idea that individuals can easily hide their true identities online and adolescents may therefore become victims of sexual predators online. Second, previous research has shown that communicating with strangers online increases the chance of receiving unwanted sexual solicitation (Mitchell, Finkelhor, & Wolak, 2001, 2007; Wolak et al., 2008). Thus, communicating with unknown persons online may be more problematic for adolescents than communicating with known persons.

Online sexual risk behavior is similar to offline risk behavior in several respects. First, engaging in this behavior may also lead to potentially negative consequences. Possible negative consequences include unwanted sexual solicitations and the misuse of intimate information by others (Moreno et al., 2009). Second, despite the risky nature of this behavior, it may also play an adaptive role in the development of adolescents. For example, by communicating about sexual issues online, adolescents may learn to assert their sexual interests, may gain important information, and may learn to communicate about these topics with others (Subrahmanyam, Greenfield, & Tynes, 2004; Subrahmanyam & Smahel, 2011). Third, similar to offline risk behaviors, not all adolescents engage in this behavior. Specific demographic, psychological, developmental, social, and cultural factors can influence online sexual risk behavior. These factors determine which adolescents engage in this behavior and which do not (Ybarra et al., 2007).

Despite these similarities, online sexual risk behavior has some important unique characteristics. First, the easy accessibility of the internet may make the engagement in risk behaviors much easier than engagement in offline risks. All that is needed to engage in online sexual risk behavior is a computer with internet access. With the increasing popularity of mobile internet devices, the accessibility of the internet is enhanced even further. The second specific feature of online sexual risk behavior is the relative anonymity and reduced cues of online communication. This anonymity may encourage adolescents to try out behaviors in which they would not dare to engage in a non-anonymous offline situation (Chiou, 2006). The anonymous settings of online communication may be perceived as a safe place to experiment with their sexual identity. However, if identifiable

information is exchanged, these initially anonymous situations may easily be transferred to non-anonymous settings later. Moreover, it has been shown that the reduced cues of online communication increase disinhibition among adolescents (Schouten, Valkenburg, & Peter, 2007). Because of the unique characteristics of the internet, it is important to study online sexual risk behavior in addition to offline risk behaviors to understand the role of these rather new types of risk behavior in the broader context of adolescent' risk behavior.

Throughout this dissertation the terms 'online sexual risk behavior' and 'risky sexual online behavior' are used interchangeably.

Why Study Adolescents?

The main focus of this dissertation is online sexual risk behavior among adolescents. There are several reasons to assume that adolescents are more prone to engage in online sexual risk behavior compared to any other age group. The first reason is that there is no other period in life when individuals are more likely to engage in risk behavior (Dahl, 2004; Steinberg, 2007). This heightened propensity to engage in risk behavior has been related to the biological and social changes associated with puberty. Due to the hormonal changes that accompany puberty, adolescents develop a strong inclination towards sensations and strong emotional arousal (Arnett, 1992; Dahl, 2004; Steinberg, 2007). However, the capability to regulate impulses and emotions develops only gradually during the course of adolescence and young adulthood (Steinberg, 2007). In situations that are emotionally arousing, adolescents may have difficulties regulating impulses and may thus be more willing to engage in risk behavior.

The second reason is that during adolescence, individuals develop a strong sexual interest. During this period, adolescents become sexually mature. Due to the vast bodily and hormonal changes, adolescents are faced with the developmental goal of attaining a sexual identity (Breakwell & Millward, 1997; Buzwell & Rosenthal, 1996; Graber, Brooks-Gunn, & Galen, 1997). They also have to become used to their sexual desires; therefore, they explore their sexuality during this period (Crockett, Raffaelli, & Moilanen, 2003; Santelli, Lindberg, Abma, McNeely, & Resnick, 2000). The third reason why adolescents are especially susceptible to engage in risk behavior is that during this period, their social orientation shifts from parents to peers (Steinberg & Morris, 2001). Adolescents strive to attain independence from their parents and turn to their peers for support. Consequently, the behavior of peers becomes directive for adolescents. In this respect, it is not surprising that a large body of research has shown that peer influence is one of the most important and most consistent predictors of adolescent risk behavior (Michael & Ben-Zur, 2007).

Besides these basic developmental changes that accompany adolescence, communication research has also consistently shown that adolescents are more eager to adopt new media technologies compared to any other age group, and the internet is no exception to this rule. This eagerness may be related to adolescents' propensity for excitement and novelty. Moreover, the internet may fit the developmental needs of adolescents perfectly. It has been previously argued that specific characteristics of the internet, such as its anonymity, accessibility, and asynchronicity, make the internet attractive for adolescents (Valkenburg & Peter, 2011). As a result, adolescents may use the internet to explore their sexuality and satisfy their sexual interests.

Because of the developmental proneness towards risks and increased interest in sexuality on the one hand, and the huge popularity of the internet among adolescents on the other hand, it may be assumed that adolescents are the age group that is most likely to engage in online sexual risk behavior.

Methodological Context

The chapters presented in this dissertation are based on a four-wave longitudinal study as well as on a secondary analysis of a cross-national study. The longitudinal study was conducted among 1,765 Dutch adolescents aged 12 to 18 years. These adolescents received an online survey four times with 6-month intervals. This longitudinal dataset provided an excellent opportunity to establish the causality of predictors and behaviors as well as to investigate the development of online sexual risk behavior. Behaviors and perceptions can change quickly due to the vast hormonal, biological, and social changes during adolescence. The 6-month intervals were therefore appropriate to cover their quick changing developments during this period. In addition to adolescents, 1,026 Dutch adults (19- to 88-year olds) were also investigated in the first wave of data collection. This allowed us to compare the online behaviors, perceptions, and experiences of adolescents with those of adults.

To broaden the scope of this dissertation, in Chapter 7, a cross-national dataset was analyzed that comprised information about online sexual risk behavior among adolescents from 20 European countries. More specifically, the cross-national dataset included 14,946 internet-using adolescents aged 11 to 16 years. This study was conducted as part of the EU Kids Online project that charts the online experiences of European youth². Comparative research across countries provides unique information in comparison to studies conducted within one country. First, the cross-national study allows us to compare the prevalence of online sexual risk behavior across several European countries. A second advantage is that

² See www.eukidsonline.net

it enables us to investigate cultural factors at the country level along with individual factors as predictors of online sexual risk behavior. Finally, comparative research provides the unique opportunity to examine whether individual predictors of online sexual risk behavior (such as age, gender, sensation seeking) are the same across countries or whether the predictive importance of these factors differs. Due to specific characteristics at the country level, some factors may be more important in one country than in another.

Outline of the Dissertation

This dissertation consists of six studies that have been published or submitted for publication as individual papers. Therefore, each chapter has its own abstract, introduction, discussion, and reference list and can be read individually. Together, they provide a comprehensive picture of adolescents' online sexual risk behavior. The dissertation concludes with a summary and general discussion of the main findings.

Chapter 2: Comparing Adolescents and Adults: Differences in Online Sexual Risk Behavior and Risk Perceptions

There have been widespread concerns that on the internet, adolescents are especially vulnerable and are more likely to engage in sexual risk behavior compared to adults. However, empirical evidence to support this assumption has been widely missing. The first study of this dissertation, therefore, examines this basic assumption by comparing the experiences with online sexual solicitation, and the engagement in online sexual risk behavior among 1,765 Dutch adolescents and 1,026 Dutch adults. Moreover, the study investigated age and gender differences in the perception of risks and benefits concerning online sexual risk behavior. The main finding of this study was that – in contrast to expectations – adults and adolescents did not differ much in their engagement in online sexual risk behavior and in their perceptions of this behavior. Overall, adolescent and young adult females were more likely to receive unwanted online sexual solicitations, while middle and late adolescent boys as well as adult men were more likely to engage in online sexual risk behavior. Across all age groups, the risks associated with online sexual risk behavior were perceived as high and the benefits as low.

Chapter 3: Psychological Predictors of Online Sexual Risk Behavior

Chapter 2 has shown that risk perceptions of online sexual risk behavior are high among adolescents. Overall, adolescents seem to be aware of the risks associated with this behavior and they do not see many benefits related to this behavior. Nevertheless, there

may be individual differences in risk and benefit perceptions among adolescents. The aim of Chapter 3 was to investigate whether individual differences in the perceptions associated with this behavior may lead to differences in risk engagement. More specifically, we examined whether adolescents who perceive fewer risks and more benefits, who feel less vulnerable, and who perceive to have more friends engaging in this behavior are more likely to engage in online sexual risk behavior. The results of autoregressive cross-lagged structural equation models showed that perceptions of risks, vulnerability and the perceived amount of friends who engage in online sexual risk behavior predicted risk engagement six months later. The perceived amount of friends engaging in this behavior was the most consistent and strongest predictor of online sexual risk behavior. These findings underline the importance of peers in adolescents' online sexual risk behavior.

Chapter 4: Social Predictors of Online Sexual Risk Behavior: The Role of Peers

The findings presented in Chapter 3 emphasize the importance of peers in the engagement in online sexual risk behavior. Chapter 4 further elucidates the role of peer norms. Social norms theory states that peer influence depends on adolescents' beliefs about the norms that are prevalent among their peers. Chapter 4 examined the influence of descriptive as well as injunctive peer norms on online sexual risk behavior across four waves. Two cross-lagged structural equation models supported the findings from the previous chapter, showing that adolescents are much more likely to engage in this behavior if they have friends who engage in this behavior. Descriptive peer norms consistently predicted subsequent online sexual risk behavior across all four waves. Furthermore, injunctive peer norms also predicted subsequent engagement in online sexual risk behavior, but not as strongly and consistently as descriptive peer norms. The findings suggest that similar to offline risk behaviors, what peers do or approve of influences problematic behaviors on the internet.

Chapter 5: The Development of Online Sexual Risk Behavior and its Relationship to Offline Sexual Risk Behavior

The fifth chapter examines two crucial aspects of online sexual risk behavior: the development of online sexual risk behavior from early until late adolescence as well as its relationship to offline sexual risk behavior. Using a group-based modeling approach, we found substantial variation in the developmental course of online and offline sexual risk engagement. In terms of engagement in online sexual risk behavior, three distinct groups were identified. The largest group of adolescents did not engage in online sexual risk behavior during adolescence (70%). The second group showed moderate levels of risk

engagement (24%), and the third group showed higher levels of risk engagement (6%). The moderate and high online risk groups followed the typical developmental pathway of risk behavior, with an increase from early to mid-adolescence, a peak in mid-adolescence, and a decline thereafter. Moreover, dual trajectory analysis revealed that online and offline sexual risk behaviors were highly related. Finally, this study showed that adolescents following heightened pathways of online sexual risk behavior were less satisfied with their lives, had higher levels of sensation seeking, came from less cohesive families, and were less educated.

Chapter 6: Online Sexual Risk Behavior and its Relationship to Negative Online Experiences

Chapter 5 indicated that adolescents may follow specific pathways of risk engagement during the course of adolescence. It may be expected that engaging in online sexual risk behavior frequently and consistently over time may be related to negative online experiences. The aim of Chapter 6 was to investigate whether following more ‘problematic’ pathways of online sexual risk behavior is related to three types of negative online experiences, unwanted online sexual solicitation, online harassment, and online rumination. As expected, those 6% of adolescents who followed a pathway of high risk behavior were more likely than all other adolescents to encounter negative online experiences across all four waves of data collection. Adolescents who showed the highest level of online sexual risk engagement are thus at risk of also encountering a wide range of negative online experiences.

Chapter 7: Comparing the Predictors of Sexting Across Europe

The aim of the final study of this dissertation was to broaden the scope by investigating online sexual risk behavior not only among Dutch adolescents, but also among adolescents in other European countries. By conducting a secondary analysis of a cross-national dataset including 20 European countries, this study examined individual and country characteristics that explain adolescent engagement in sexting. Moreover, the study investigated whether individual predictors vary across countries. Multilevel analysis revealed that age, sensation seeking, and frequency of internet use predicted sexting across all countries. The influence of gender varied across countries. Although country characteristics (traditionalism, GDP, broadband penetration) had no *direct* effect on adolescent sexting, traditionalism of a country significantly predicted gender differences in sexting. In countries that are more traditional, gender differences were stronger, with more boys engaging in this behavior compared to girls. In less traditional countries, these gender

Introduction

differences were less apparent or even reversed. These findings suggest that when investigating sexting, and possibly online risk behavior in general, the broader cultural context should be considered to fully understand this behavior.

References

- Arnett, J. J. (1992). Reckless behavior in adolescence: A developmental perspective. *Developmental Review, 12*, 339-373.
- Boyer, T. W. (2006). The development of risk-taking: A multi-perspective review. *Developmental Review, 26*, 291-345.
- Breakwell, G. M., & Millward, L. J. (1997). Sexual self-concept and sexual risk-taking. *Journal of Adolescence, 20*, 29-41.
- Buzwell, S., & Rosenthal, D. (1996). Constructing a sexual self: Adolescents' sexual self-perceptions and sexual risk-taking. *Journal of Research on Adolescence, 6*, 489-513.
- Chiou, W.-B. (2006). Adolescents' sexual self-disclosure on the internet: Deindividuation and impression management. *Adolescence, 41*, 547-561.
- Crockett, L. J., Raffaelli, M., & Moilanen, K. L. (2003). Adolescent sexuality: Behavior and meaning. In G. R. Adams & M. D. Berzonsky (Eds), *Blackwell handbook of adolescence* (pp. 371-392). Oxford, UK: Blackwell Publishing.
- Dahl, R. E. (2004). Adolescent brain development: A period of vulnerabilities and opportunities - Keynote address. *Adolescent Brain Development: Vulnerabilities and Opportunities, 1021*, 1-22.
- Eisenberg, A. L. (1936). *Children and Radio Programs*. New York: Columbia University Press.
- European Commission (2008). Towards a safer use of the internet for children in the EU – A parents' perspective. Analytical report. Flash Eurobarometer Series, 248.
- Graber, J. A., Brooks-Gunn, J., & Galen, B. R. (1998). Betwixt and between: Sexuality in the context of adolescent transitions. In: R. Jessor (Ed.), *New perspectives on adolescent risk behavior* (pp. 270-318). Cambridge, UK: Cambridge University Press.
- Igra, V., & Irwin, C. E., Jr. (1996). Theories of adolescent risk-taking behavior. In R. J. DiClemente, W. B. Hansen & L. E. Ponton (Eds.), *Handbook of Adolescent Health Risk Behavior* (pp. 35-51). New York: Plenum Press.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding action. *Developmental Review, 12*, 374-390.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Joinson, A. N. (2005). Deviance and the internet: New challenges for social science. *Social Science Computer Review, 23*, 5-7.
- Kotchick, B. A., Shaffer, A., Forehand, R., Miller, K. S. (2001). Adolescent sexual risk behavior: A multi-system perspective. *Clinical Psychology Review, 21*, 493-519.

- Liau, A. K., Khoo, A., & Ang, P. H. (2005). Factors influencing adolescents engagement in risky internet behavior. *CyberPsychology & Behavior*, 8, 513-520.
- Livingstone, S., & Haddon, L. (2008). Risky experiences for children online: Charting European research on children and the Internet. *Children & Society*, 22, 314-323.
- Lüders, M. H., Brandtzaeg, P. B., & Dunkels, E. (2009). Risky contacts. In S. Livingstone & L. Haddon (Eds.), *Kids online. Opportunities and risks for children* (pp. 123-134). Bristol, UK: The Policy Press.
- Madden, M., Cortesi, S., Gasser, U., Lenhart, A., & Duggan, M (2012). *Parents, teens, and online privacy*. Washington, DC: Pew Internet & American Life Project.
- Michael, K., & Ben-Zur, H. (2007). Risk-taking among adolescents: Associations with social and affective factors. *Journal of Adolescence*, 30, 17-31.
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *Jama-Journal of the American Medical Association*, 285, 3011-3014.
- Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Youth internet users at risk for the most serious online sexual solicitations. *American Journal of Preventive Medicine*, 32, 532-537.
- Moreno, M. A., VanderStoep, A., Parks, M. R., Zimmerman, F. J., Kurth, A., & Christakis, D. A. (2009). Reducing at-risk adolescents' display of risk behavior on a social networking web site. A randomized controlled pilot intervention trial. *Archives of Pediatrics & Adolescent Medicine*, 163, 35-41.
- Santelli, J. S., Lindberg, L. D., Abma, J., McNeely, C. S., & Resnick, M. (2000). Adolescent sexual behavior: Estimates and trends from four nationally representative surveys. *Family Planning Perspectives*, 32, 156-165.
- Schouten, A. P., Valkenburg, P. M., & Peter, J. (2007). Precursors and underlying processes of adolescents' online self-disclosure: Developing and testing an "Internet-attribute-perception" model. *Media Psychology*, 10, 292-314.
- Siegel, A. W., Cousins, J. H., Rubovits, D., Parsons, J. T., Lavery, B., & Crowley, C. (1994). Adolescents' perceptions of the benefits and risks of their own risk-taking. *Journal of Emotional and Behavioral Disorders*, 2, 89-98.
- Steinberg, L. (2007). Risk taking in adolescence. New perspectives from brain and behavioral science. *Current Directions in Psychological Science*, 16, 55-59.
- Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, 52, 83-110.
- Subrahmanyam, K., Greenfield, P. M., & Tynes, B. (2004). Constructing sexuality and identity in an online teen chat room. *Applied Developmental Psychology*, 25, 651-666.

- Subrahmanyam, K., & Smahel, D. (2011). Sexuality on the internet: Sexual exploration, cybersex, and pornography. In K. Subrahmanyam & D. Smahel (Eds.), *Digital youth: The role of media in development* (pp. 41-55). New York: Springer.
- The National Campaign to Prevent Teen and Unplanned Pregnancy. (2009). *Sex and tech. Results from a survey of teens and young adults*. Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.
- Turow, J. (1999). *The internet and the family: The view from the parents - the view from the press*. Philadelphia, PA: Annenberg Public Policy Center.
- Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health, 48*, 121-127.
- Wartella, E. A., & Reeves, B. (1985). Historical trends in research on children and the media: 1900-1960. *Journal of Communication, 35*, 118-133.
- Wartella, E. A., & Jennings, N. (2001). Children and computers: New technology – old concerns. *The Future of Children, 10*, 31-43.
- Wolak, J., Finkelhor, D., & Mitchell, K. J. (2008). Is talking online to unknown people always risky? Distinguishing online interaction styles in a national sample of youth Internet users. *Cyberpsychology & Behavior, 11*, 340-343.
- Ybarra, M. L., Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Internet prevention messages - Targeting the right online behaviors. *Archives of Pediatrics & Adolescent Medicine, 161*, 138-145.