

YOUTH SEXTING AS CHILD PORNOGRAPHY? DEVELOPMENTAL SCIENCE SUPPORTS LESS HARSH SANCTIONS FOR JUVENILE SEXTERS

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It is critical that the legal and psychological issues surrounding youth sexting, a term derived from the joining of “sex” and “texting,” be considered. Based on current interpretations of the law, minors who engage in sexting can be charged with a felony offense and in some cases be required to register as a sex offender. Yet, when adults share sexually explicit photos of themselves, such behavior is protected under the First Amendment (provided the subject and the recipient of the image are consenting adults). The purpose of the present review is to examine the differential treatment of sexting by minors in the legal system and the controversy surrounding child pornography legislation. A brief history of child pornography legislation is provided, followed by a review of the existing literature on the prevalence and patterns of juvenile sexting. Available case law is summarized, with an emphasis on the consequences of sexting specifically for juveniles. The authors then address the developmental factors relevant to understanding youth sexting behavior. These considerations lead to a discussion

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of whether it is appropriate to consider adolescents culpable for such behavior and, if so, to what degree and under what circumstances. It is argued that sexting behavior be considered separate from child pornography, and as such, the authors propose that specific legislation be designed to address the unique situations in which sexting behavior occurs. Furthermore, based on developmental science, the authors conclude that juveniles should be considered less culpable for sexting behavior than adults, and recommend that the punishment for minors be more developmentally appropriate.

Keywords: *Sexting, child pornography, juvenile sexting, adolescence, adolescent development*

INTRODUCTION

Rapid technological advances in the first decades of the 21st century have been accompanied by a rapid increase in the incidence of “sexting,” particularly among minors. Sexting, a term derived by joining “sex” with “texting,” refers to “sending or posting sexually suggestive text messages and images, including nude or semi-nude photographs, via cellular telephones or over the Internet” (*Miller v. Skumanick*, 2009, p. 1). Because such material meets the legal definition of “child pornography” in many jurisdictions, sexting can expose both the sender and the receiver of such material to criminal prosecution and subsequent classification as a sex offender.

Laws against the creation, distribution, or possession of child pornography were originally established with the goal of preventing the exploitation and sexual abuse of minors. High-profile cases, such as the kidnapping and murder of six-year-old Adam Walsh (Almanzar, 2008) and the sexual assault and murder of seven-year-old Megan Kanka (Boyer, 2011), led to further strengthening of laws regarding sexual exploitation of minors (i.e., Adam Walsh Child Protection and Safety Act of 2006 and “Megan’s Law” of 1996 [amendment to the Violent Crime Control and Law Enforcement Act of 1994]), and to requirements that those found to violate such laws be registered as sex offenders (entailing lifelong restrictions on where such offenders can live and work, and in some jurisdictions requiring notification of neighbors). These child pornography and sex offender laws became widespread in the last decades of the 20th century, in an era when minors typically did not have ready access to technology allowing them to create or widely distribute sexually explicit material themselves. Minors using

internet-connected smartphones to take nude pictures of themselves and instantly transmit them to a classmate was not a scenario given much consideration in the mid-1980s. Most of the applicable laws regarding child pornography thus did not (and generally still do not) draw any distinctions regarding the creation, transmission, or possession of such material by minors themselves.

Throughout the present article we argue that juvenile sexting behavior has largely been misclassified as child pornography in the eyes of the law, and we propose that specific legislation be put forth to address the behaviors and unique circumstances involved in youth sexting. To provide a background for this issue, we examine the legal and psychological considerations surrounding youth sexting. We begin with a brief history of child pornography legislation. We then review the available literature on the prevalence and patterns of sexting. We go on to examine the current treatment of sexting in the legal system, summarizing available case law and emphasizing the consequences of sexting for juveniles. Finally, we consider the developmental factors involved in understanding why adolescents engage in such behavior. These considerations lead to a discussion of whether it is appropriate to consider adolescents culpable for such behavior and, if so, to what degree and under what circumstances. It is our position that youth sexting is a separate and distinct behavior from child pornography, and therefore, new sexting-specific legislation should be enacted to more effectively address the developmental issues related to sexting behaviors by minors.

I. HISTORICAL BACKGROUND OF SEXTING LEGISLATION

There has been a considerable lack of clarity in child pornography legislation due to the long and complicated history surrounding these laws. Originally, the Supreme Court ruled in *Roth v. United States* (1957) that obscene materials were not protected under the First Amendment rights to free expression due to their lack of social importance. Later, in *Memoirs v. Massachusetts* (1966), a new test of obscenity was developed specifying that to be found obscene, the material had to meet the following criteria: “(a) the dominant theme of the material taken as a whole appeals to a prurient interest in sex; (b) the material is patently offensive because it affronts

contemporary community standards relating to the description or representation of sexual matters; and (c) the material is utterly without redeeming social value.” This test of obscenity placed the burden of proof on prosecutors to demonstrate that the material in question is without social value. In *Miller v. California* (1973), the Supreme Court updated this test of obscenity by removing the requirement that obscene material be found “utterly without redeeming social value” and allowing states to set their own qualifications for determining obscenity, on the basis that community norms were likely to vary by locale. In doing so, they recognized that not all pornography should be considered obscene, and thus some forms of adult pornography were indeed protected under the First Amendment. However, in *New York v. Ferber* (1982), the Supreme Court found that the First Amendment did not prevent states from creating legislation to outlaw depictions of minors engaged in sexual activities—even if those images do not meet the criteria of obscenity determined in *Miller v. California*. The decision to make child pornography an exception to First Amendment protection was based on the states’ duty to protect the well-being of minors.

As an unintended consequence of *New York v. Ferber* (1982), minors who share sexually explicit photos of themselves have faced criminal charges of child pornography (Barry, 2010). Yet, when adults share sexually explicit photos of themselves, such behavior is protected under the First Amendment (provided the subject and the recipient of the image are consenting adults). In a recent review, Haynes (2012) reasoned that teens’ sexting images and videos should be considered constitutionally protected free speech. In the same manner, minor defendants who have been prosecuted for sexting have attempted to invoke the protection of the First Amendment. However, the language of the First Amendment is open to interpretation, making it difficult for youth to assert the rights they believe they are entitled to. Some have argued that by prosecuting perpetrators of juvenile sexting, child pornography laws are now being used to punish the very same individuals the law originally intended to protect (Arcabascio, 2009–2010).

II. PREVALENCE AND PATTERNS OF YOUTH SEXTING

Sexting has begun to receive attention only within the last few years, with the number of news headlines on the topic growing from no mention of

sexting prior to April 2008, to a high of 100 headlines containing the word “sexting” in July 2013 (according to a Google Trends search conducted by the authors in November 2013). With the rapid rise in publicity surrounding juvenile sexting, it may appear on the surface that sexting is strictly a youth phenomenon. Yet, according to Leshnoff (2011), sexting is growing in popularity among adults over the age of 50 as well. Sexting within the older demographic has not been as well publicized, or as controversial, likely because sending sexual photos between consenting adults is legal. Although youths are not the only ones who engage in sexting, they are treated more harshly because the nature of the crime is determined by the age of the subject matter, without regard to the age of the sender.

To fully understand the implications of youth sexting, it is important to understand the commonness of this phenomenon among youth. Prevalence estimates in the research literature have been inconsistent because of differences in what constitutes “sexting”; these inconsistencies have made it challenging to compare findings across studies (Drouin, Vogel, Surbey, & Stills, 2013). Sexting can refer, variously, to sending and/or receiving images, and can involve images taken by the sender of him/herself, or could be defined to include images of others, either taken by the sender or forwarded after being received from someone else. These various definitions, as well as method and sample inconsistency, have made it difficult to determine the prevalence of juvenile sexting, with rates of teen sexting ranging from as few as 1% in a national telephone survey of 1560 Internet-using youth aged 10–17 (Mitchell, Finkelhor, Jones, & Wolak, 2012) to as many as 27.6% in a longitudinal study of 948 high school students (Temple, Paul, van den Berg, Le, McElhany, & Temple, 2012). To address these inconsistencies, research using large, national datasets and consistent methodology is needed.

III. SEXTING AND THE LAW

Federal law views the creation, possession, and dissemination of visual images of a minor engaged in “sexually explicit conduct” as a felony offense; therefore, some sexting images involving juveniles fall under this designation. Compared to federal law, state laws vary considerably and may carry a lower threshold for what is considered to be child pornography. California state law under Penal Code 288.2(b), for example, indicates that

if a minor receives an image that has the “intent of arousing, appealing to, or gratifying to the lusts, passions or sexual desires of that person,” then a crime has occurred. This law does not make a distinction for cases where a minor has sent an image of himself/herself. Even if sender and recipient are both minors who consented to the image, the law states that the sender of the image “is guilty of a public offense and shall be punished by imprisonment in the state prison or in a county jail” (Cal. Pen. Code § 288.2). In this scenario, the sender may be charged with a felony violation of Penal Code § 228.2 and, if convicted, be ordered to register as a sex offender pursuant to Penal Code § 290, the Sex Offender Registration and Notification Act (SORNA; 2006).

According to a recent report, only seventeen states currently have sexting-specific legislation for minors; the remaining states treat youth sexting as child pornography (Hinduja & Patchin, 2013). However, the specific details of the new sexting legislation within those states can vary greatly. For instance, in Illinois, a minor “involved in electronic dissemination of indecent visual depictions” may be required to receive counseling or perform community service (Illinois P.A. § 96-1087; Juvenile Court Act of 1987 § 705 ILCS 405/3-40 (amended 2010)). Yet, in Utah, youths aged 16 or 17 convicted of sending pornographic material are guilty of a class A misdemeanor (those younger than 16 years of age are guilty of a class B misdemeanor), and if a minor repeats this offense, he or she will be charged with a third degree felony and face a minimum mandatory fine of at least \$1000 and incarceration for at least 14 days (Utah H.B. 14 § 76-10-1204 (amended 2009); Utah H.B. 14 § 76.10.1206 (amended 2009)). Many states, however, still do not have any statutes or laws that are specific to sexting among minors.

Ever since the inception of child pornography laws, the line between child nudity and child pornography has been difficult to define objectively (Grasz & Pfaltzgraff, 1998). What standard should be used to determine whether images cross the line from artistic expression (which may be protected under the First Amendment [White, 2011]) to child pornography (which is not)? Parents’ photos of their young children in the nude have led to accusations of pornography in cases such as *People v. Pinkoski* (2001), in which a mother was charged with multiple counts of mistreatment of her six-year-old daughter (including use of a child in a sexual performance, promoting a sexual performance by a child, possessing a sexual performance by a child, sexual abuse in the first degree, and endangering the

welfare of children) for photographs of the girl depicting her bare stomach and chest, bare buttocks, and a frontal view of the girl with her shorts down and shirt pulled up. This case was controversial, given the fact that although the photographs depicted child nudity, they did not depict “lewd exhibition of the genitals”—a requirement of § 263.15 (*New York v. Ferber*, 1982) in order to constitute the photos as pornography.

Similarly, not all sexting cases are clear-cut, either. Undoubtedly, non-consensual photographs taken and distributed by a third party should be prosecuted more harshly than cases involving self-portraits. Yet, the case of *Miller v. Skumanick* (2009) demonstrates how self-photos taken by teens on cell phone cameras can lead to criminal prosecution, even when these images are not sent to anyone. In this case, school officials confiscated student cell phones and found two instances of nude and semi-nude teenage girls (in one photo, two teen girls were shown wearing opaque bras; in another, one teenager was shown with a towel wrapped around her exposing her breasts). The District Attorney of that county, George Skumanick Jr., deemed these photographs to be in violation of the child pornography statute in the state of Pennsylvania and informed the parents of the three young girls that felony charges could be brought against the girls and that a guilty verdict could lead to mandatory registration as sex offenders under Meghan’s Law. The parents of the girls filed complaints of retaliation and violation of the girls’ First Amendment rights to free expression. In March 2009, the United States District Court granted a temporary restraining order against Skumanick. The following year, the Third Circuit Court of Appeals held that the plaintiffs were entitled to preliminary injunctive relief. The girls’ lack of intent was an important consideration in this case, as the context under which the photographs were taken was not for the purpose of serving the sexual gratification of another person.

We would also argue that cases that involve shared sexting images between two consenting minors should be handled separately from cases that involve forwarded sexting images to third parties. Yet, not all state legislatures classify cases in this way. So-called “revenge sexting,”—as demonstrated in the case of Phillip Alpert, an 18-year-old Florida male convicted of child pornography and placed on the sex offender registry for forwarding nude images of his 16-year-old ex-girlfriend to dozens of individuals after a fight between the couple (Feyerick & Steffen, 2009)—should, in theory, be treated very differently from the consensual sharing of sexual images, as in the case of A.H. In this case, A.H. took photographs

with her consenting boyfriend while they engaged in sexual behavior and never sent the images to a third party (*A.H. v. Florida*, 2007). It was argued that the youths' documentation of their sexual encounter through photographs or videos was not protected free speech. The youths involved in this case, 16-year-old A.H. and her 17-year-old boyfriend J.G.W., were each charged with child pornography for taking pictures of themselves while engaged in sexual activities and later transferring these pictures to their home computer. These images were never shared with a third party and were only meant for personal use. A.H. filed an appeal on the basis that the charges were an unconstitutional violation of her rights to engage in sexual behavior and rights to privacy associated with such actions. This appeal was denied on the basis that the state has a responsibility to protect children from sexual exploitation. The Court determined that even though the pictures were never shared with a third party, it was possible that one of the minors would share these photos at a later time, and therefore, there was not a reasonable expectation of privacy. A.H. argued that because the photos were never shared with a third party, the state did not have a compelling interest in the case. However, based on legislation following *New York v. Ferber* (1982), the state asserted a compelling interest in preventing the depiction of minors in sexual pictures or videos and protecting minors from their own immature judgment; therefore, the appeal was denied. This case is thus notable for affirming a precedent that even the taking of a sexually explicit photograph of himself or herself by a minor can subject him or her to child pornography charges even if that photograph is never shared.

Importantly, regardless of the vast differences in the circumstances surrounding the cases of Phillip Alpert and A.H., the outcomes were the same: each youth was convicted of (or adjudicated delinquent, in the case of A.H.) child pornography. Cases that involve nonconsensual distribution of images to third parties are likely to have greater opportunity for harm, such as psychological trauma, depression, and suicide, and such distribution is frequently done with the intent to harm the subject; such cases should therefore carry greater consequences within the justice system than cases in which subjects voluntarily (albeit foolishly) allow themselves to be photographed. Yet, as the example above demonstrates, even the *possibility* of future distribution can be considered enough to warrant prosecution of minors who create sexually explicit images of themselves.

Sexting images that are sent between two minors should arguably be viewed differently in the eyes of the law than sexting images that are shared

between a minor and much older adult. However, legislation was not designed with these differentiations in mind, and many states do not distinguish between these scenarios. In our view, factors such as distribution of images, consent, age of involved parties, and intent should be taken into consideration when prosecuting sexting cases. Some states have enacted legislative changes in the past few years in an effort to address some of these factors. For example, California recently amended a senate bill that essentially makes it a misdemeanor crime to photograph or record another person who is partially or fully nude and then later distribute this image or recording “with the intent to cause serious emotional distress” (Cal. Pen. Code § 647, S.B. 255 (amended 2013)). The previous version of this bill outlawed taking such images without the consent or knowledge of the individual depicted in the image; however, the amended bill makes it illegal to distribute such images—even those images obtained with consent—if the distribution violates a reasonable expectation of privacy (Cal. Pen. Code § 647, S.B. 255 (amended 2013)). This represents an important area for future work and a unique opportunity for researchers to inform legal policy regarding the developmental consequences of differing sexting policies on youth.

IV. RISKS AND CONSEQUENCES OF YOUTH SEXTING

At first glance, sexting may seem like a harmless means of adolescent sexual exploration and a normative form of youth development in the 21st century. Though the activity itself may not be as hazardous as other adolescent risk-taking behaviors (e.g., reckless driving, unprotected sex, drug or alcohol abuse), there are significant secondary social, psychological, and legal risks. In addition, research suggests that sexting may be correlated with other problem behaviors. An online questionnaire study assessed sexting behavior among 763 young adults and found that sexting was positively associated with concurrent use of recreational substances, including alcohol, marijuana, ecstasy, and cocaine (Benotsch, Snipes, Martin, & Bull, 2013). Additionally, individuals who reported engaging in sexting behaviors were found to be more likely than their non-sexting counterparts to engage in risky sexual behavior (operationalized as unprotected sex and sex with multiple partners), controlling for demographic factors, texting behavior, and substance use (Benotsch et al., 2013). Those who engage in sexting are likely those who are already in engaging in other risky behaviors.

The psychological and social risks of youth sexting arise not because of the act itself, but because the images, once transmitted, can be further distributed, leading to embarrassment, shame, and humiliation by peers. Dissemination of explicit images has become a new method of bullying that can lead to tragic consequences. Jessica Logan committed suicide at the age of 18 after being harassed by classmates when the nude photos she shared with her at-the-time boyfriend were later forwarded across the school (Thomas, 2009). Another tragic case involved Hope Whitsell, a 13-year-old girl who sent a picture of her breasts to her boyfriend, only to have the photos forwarded to classmates by another student. Hope was bullied and harassed at school for the image and eventually committed suicide (Kaye, 2010). The psychological trauma caused by bullying can lead to depression, suicidal ideation, and suicide attempts (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Together, these studies suggest that, even in the absence of possible legal consequences, sexting may be an unhealthy form of sexual expression that is linked to a number of negative physical, social, and psychological health outcomes.

Depending on state laws, a youth found in violation of child pornography laws may face required registration as a sex offender. The restrictions that come with sex offender registration were developed with the most heinous offenders in mind, but are arguably disproportionate for cases involving minors who streak across a football field, kiss a classmate at school, or send an ill-advised photo of themselves to a boyfriend or girlfriend. Above and beyond the direct consequences of criminal conviction, the lifelong consequences of sex offender registration will influence a youth's living situation and future employment (Cumming & McGrath, 2005), as well as affect the youth's educational opportunities, future relationships, and psychological well-being. Furthermore, public access to sex offender registries in the United States opens the defendant up to be the target of hostility, discrimination, and possibly violence. Levenson and Cotter (2005) examined the occurrence of these types of outcomes, among others, in a study of the effect of Megan's Law on sex offenders. Using a sample of 183 convicted male sex offenders from Florida, Levenson and Cotter found that nearly one third of the participants in the sample had experienced the loss of a job due to their requirement to register as a sex offender, and a full 33% of the sample had been threatened or harassed by neighbors. Many reported symptoms of internalizing problems, such as feeling stress (71%), isolation and loneliness (64%), and hopelessness

(49%), as a direct result of their registration status. Clearly, the requirement of registering as a sex offender has the capacity to negatively affect many domains of one's functioning and is likely to have devastating consequences on one's emotional wellbeing.

Youth who are charged with sex offenses for their sexting behavior may be exposed to a wide range of problematic outcomes caused by legislative mandates that were established before sexting became a trend. As addressed by Colbert (2011), sex offender legislation is overly inclusive, and its application to juveniles is problematic. It is likely that the effects of registration will be as distressing, if not more so, among young offenders as among adults. For example, 15-year-old Christian Adamek from Huntsville, Alabama, hanged himself after a school official threatened legal action that could have led to registration as a sex offender for streaking across the football field (Warren, 2013). Unlike adults, adolescents may lack the developmental capacity to effectively manage the severe stress associated with criminal prosecution and sex offender registration. Adolescence is a time of increased risk for depression (Kessler, Avenevoli, & Merikangas, 2001), and stress may exacerbate such risk (Graber & Sontag, 2009). The effects of such legislation, therefore, may be more likely to lead to internalizing problems among adolescents than adults.

V. DEVELOPMENTAL CONSIDERATIONS

A. Why Do Teens Sext?

In a modern era in which 75% of U.S. teenagers aged 12 to 17 have a cell phone and 73% of teenagers with Internet access use social networking websites (Lenhart, Purcell, Smitt, & Zickuhr, 2010), such technology has become an everyday form of communication among young people. As youth encounter normative transitions associated with adolescent development, such as identity exploration and curiosity about adult romantic relationships, digital technology has become an increasingly popular method of self-expression and sexual experimentation. According to Sullivan's (1953) classic theory of interpersonal development, the adolescent peer network serves as a source of sexual socialization that helps adolescents understand normative sexual behavior and develop a capacity for intimacy. Research supports the idea that sexual exploration during adolescence is

normative and that peers play a role in the timing of adolescents' sexual debut (Diamond & Savin-Williams, 2009). Teens refer to their peers to gain a sense of what is "normal" and to assess how they compare to those around them; therefore, youths' desire to share their sexual thoughts and urges with their peers through the use of digital messaging is hardly unexpected, given that such technology makes such peer interactions almost effortless.

Although sexuality is a pervasive component of Western culture, many parents and U.S. institutions tend to view adolescent sex as a negative and highly risky behavior (Diamond & Savin-Williams, 2009). Teens receive abstinence-only messages from their schools and churches, yet are bombarded with sexualized media on the television, radio, and Internet on a daily basis. Some argue that sexual exploration should be considered a healthy component of adolescent development (DeLamater & Friedrich, 2002). In fact, in one study of 475 high school seniors, on-time sexual experience (occurring at age 16) was found to be associated with positive well-being, whereas delayed sexual experience (occurring at age 17 or later) was associated with negative well-being (Vrangalova & Savin-Williams, 2011). Given the mixed messages sent to youth in the United States, American adolescents may feel forced to turn to sexual exploration through covert methods as a means of avoiding the watchful eyes of parents or authority figures. This exploration, in and of itself, is not new, but the recent rise in access to direct digital sharing of images has naturally led to the use of sexting as a new method of sexual exploration. American youth are frequently exposed to sexual images in the media, which may influence their attitudes about sexual behavior and about the sharing of their own sexually suggestive images (Malamuth & Impett, 2001). As social norms evolve regarding the acceptability of sexually provocative behavior in mainstream media, and given the increasingly common trend of broadcasting details of one's life on semipublic social media outlets, it is not surprising that the sharing of sexually suggestive self-portraits may be viewed as less taboo among modern adolescents than in previous generations.

As mentioned previously, however, not only is sexting risky to one's social and psychological well-being, but it also carries serious legal consequences for juveniles. Why, then, do they do it, despite these risks? In part, they may not fully understand the legal ramifications. Many teens may be unaware of the gravity of legal consequences that are associated with sexting (Strassberg, McKinnon, Sustaíta, & Rullo, 2013). In a study of sexting

behaviors, beliefs, and attitudes among 606 students attending a private high school, Strassberg and colleagues (2013) found that only 58% of those students who answered an open-ended question about the legal consequences of sexting believed the legal consequences to be serious consequences, such as jail time or a child pornography offense. Another study asked a focus group of 123 high school students about their perceptions of the consequences of sexting and found that most focused on the short-term consequences to their social relationships, such as the potential to harm their reputation or affect their popularity standing, and seemed less aware of the possible legal ramifications (Harris, Davidson, Letourneau, Pater-nite, & Miofsky, 2013).

Teens may also not fully appreciate the likelihood that the trusted boyfriend or girlfriend of today could decide to exact revenge after a bad breakup. But research suggests that even when adolescents understand the risks involved in potentially dangerous activities, they often engage in those activities anyway. In part, the risk itself is a reward. Moreover, adolescents are more finely attuned to considerations involving social relationships, are more susceptible to peer pressure, and are more prone to act impulsively in situations that are emotionally charged. Research has established that adolescents are more likely to take risks than children or adults (Steinberg, 2008). This may be explained by normative increases in sensation-seeking tendencies that occur during adolescence in comparison to other life stages; these increases in sensation seeking are manifested as a greater desire for novel, thrilling, and potentially risky experiences (Arnett, 1992).

Adolescence is sensitive period of development in part from the numerous important changes in brain development that occur during this time, such as changes in grey and white matter density and volume. These brain developments may have important implications for adolescents' behavior and may leave them more likely to engage in risk taking than adults. Decreases in grey matter density are thought to reflect synaptic pruning and myelination (processes that result in more efficient neural circuitry and enhanced processing speed) (Paus, 2005). Changes in grey matter density follow region-specific patterns of development (Giedd et al., 1999), such that regions involving primary functions (e.g., motor and sensory skills) develop first, whereas those that involve higher-order functions occur later (Gogtay et al., 2004; Sowell, Thompson, & Toga, 2004). For example, the prefrontal cortex, an area of the brain involved in decision making, self-control, and planning, is one of the last regions to mature and is not fully

developed until early adulthood. Together, these changes in brain structure may facilitate improvements in self-regulation and executive function through adolescence and into early adulthood (Steinberg, 2008). The components of executive functioning most likely to be influenced by the increase in synaptic pruning and myelination in prefrontal brain regions (as demonstrated by white and grey matter changes) are response inhibition, planning, and evaluating potential risks and rewards (Steinberg, 2008). Thus, these brain developments may leave adolescents at risk for impulsive behavior and poor decision making.

The limbic system, implicated in emotional response and reward processing, develops prior to prefrontal brain regions, which are thought to reflect processes involved in self-control and regulation (Casey, Jones, & Hare, 2008). This results in a heightened proclivity to respond to rewards during adolescence, at a time when impulse control is still relatively immature. Thus, for adolescents, the rewarding aspects of sexting may carry more weight than the potential consequences of getting caught. Adolescents' heightened reward sensitivity leaves teens more vulnerable than adults to peer influence, as peers are seen as a highly salient reward (Chein, Albert, O'Brien, Uckert, & Steinberg, 2011). The salience of peer approval or rejection is an important factor that may have particular relevance for adolescents' sexting behavior—most of which is done among friends and present or intended romantic partners (Lenhart, 2009).

B. Assessing Adolescent Culpability

In addition to helping shed light on the reasons for youth sexting, developmental science can also inform the debate over the appropriateness of holding juvenile sexters criminally responsible for such behavior. Psychological research has a long-standing tradition of informing public policy and has influenced legislation on many matters relating to adolescent development, including the abolishment of the juvenile death penalty (*Roper v. Simmons*, 2005), abolishment of juvenile life without parole (*Graham v. Florida*, 2010; *Miller v. Alabama*, 2012), and upholding of juveniles' rights to abortion without parental consent (*Hodgson v. Minnesota*, 1990). Central to these cases are the issues of youths' capacity for mature judgment and culpability for their actions. Such cases bring adolescents' developmental capacity for mature decision making to the forefront. Research has demonstrated that the extent to which adolescents

can be relied upon to exhibit mature judgment is strongly dependent upon the context in which the decision is made (Steinberg, Cauffman, Woolard, Graham, & Banich, 2009). In situations that allow time for thoughtful, carefully planned decisions, youths demonstrate abilities similar to those of adults. In situations where choices must be made quickly, on the spur of the moment, in the presence of peers, or under emotionally charged conditions, adolescents demonstrate more impulsive and less well-reasoned decision making. Mature decision making under such circumstances requires not only cognitive capabilities but also a number of psychosocial factors such as time perspective, resistance to peer pressure, and impulse control. Such psychosocial factors do not fully develop until late adolescence or early adulthood, so in scenarios where these factors come into play, adolescents demonstrate diminished capacity for mature decision making as compared with adults (Steinberg et al., 2009).

Research demonstrates that, by the age of 16, most adolescents are as capable as adults at cognitively evaluating risk (Cauffman & Steinberg, 2000). Psychosocial maturity, on the other hand, does not fully develop until early adulthood (Steinberg et al., 2009). Developmental studies find that following puberty, although many basic aspects of adolescent cognition reach full maturity (Kuhn, 2009), others, such as executive functioning, continue to improve into adulthood as a result of continued brain connectivity development that occurs during this time (Best, Jones, & Miller, 2009). Juvenile sexting is often motivated by the desire to elicit a favorable reaction from a romantic partner. With the wide availability of cell phone cameras and smart phones, juveniles are capable of snapping a picture and sharing it in an instant. In such situations, teens are faced with a spur of the moment decision about a potentially dangerous act in a context that is both emotionally and socially charged. These are precisely the conditions under which adolescents behave the most impulsively and under which they make the least reliable choices. As a result, adolescents should arguably be considered less culpable than adults who engage in sexting behavior and should be punished less harshly for this behavior.

CONCLUSIONS AND FUTURE DIRECTIONS

Juvenile sexting is a relatively new phenomenon that has important implications for legal policy and youth development. This review addressed

three core issues related to juvenile sexting: (1) adolescents' capacity for mature judgments and First Amendment rights, (2) adolescents' diminished culpability and the legal consequences of youth sexting, and (3) the application of child pornography laws to cases of juvenile sexting. Overwhelmingly, the evidence supports the need for a consistent definition of sexting concurrent with a consideration for the many unique circumstances surrounding this behavior. The current research suggests that a "one size fits all" approach to sexting may be inappropriate; rather, sexting legislation should take into account the specific context of the sexting behavior (noting the ages of the participants, the presence or absence of consent, the medium used for sharing/viewing the images, precisely what the sexting behavior entailed, whether third parties were involved, and the expectation for privacy).

As a relatively new issue, much remains unknown about juvenile sexting, but initial studies indicate that it may be fairly common. Future research using consistent definitions is needed to address issues of prevalence rates and specific sexting behaviors as they relate to youths' well-being. Longitudinal studies assessing the long-term consequences of youth sexting will play a critical role in understanding the implications of this behavior more fully. Also, additional research is needed to determine youths' awareness of the potential legal consequences associated with sexting and how such awareness affects their sexting behavior. A groundbreaking study by Strassberg and colleagues (2013) was the one of the first to address youths' knowledge of sexting consequences; however, it was limited by the fact that only 26.8% of the sample answered the question pertaining to the potential costs associated with sexting. It is unclear if students skipped this question because of their lack of knowledge on the topic or for some other reason. Further study of youths' understanding of legal consequences could provide much needed clarity and have important practical implications, such as improving awareness through educational interventions.

Changes to child pornography laws, as they relate to juvenile sexting, have been proposed to address fundamental differences between youth sexting and the creation, distribution, or possession of child pornography. In the authors' opinions, charging youth sexters as child pornographers violates the original intention of child pornography laws and may have severe consequences for youth development. Child sex laws and child pornography laws were developed to protect children; yet, when they are

simultaneously used to prosecute children, they have the potential to do more harm than good. Based on current interpretations of the law in some states, a minor who engages in sexting can be charged with a felony offense and in some cases be required to register as a sex offender. We assert that this is a misappropriation of justice. It is our position that adolescents should be considered less culpable for their sexting behavior than adults and that the response to such behavior should be developmentally appropriate. Developmental science provides evidence that supports this position: (1) Adolescents are psychosocially immature, making them vulnerable to peer influence, impulsive, and likely to make poor decisions when placed in emotionally salient situations. (2) Brain development is not complete until adulthood, leaving adolescence a time in which youth are prone to risk taking.

The requirement of registering as a sex offender can have disastrous effects on youths' development. Some states have attempted to remedy this by amending their child pornography statutes to have more specific language or by creating sexting-specific legislation for juveniles that is less punitive in nature. It is our recommendation that more states follow suit in creating sexting legislation for minors that relies more on intervention than on punishment. The Office of Juvenile Justice and Delinquency Prevention has proposed a framework that draws on developmental science to outline strategies for the prevention of youth sexting (Harris et al., 2013). Their findings suggest harsh disciplinary actions or legal consequences are not likely to be successful in preventing youth sexting; rather, the report recommends prevention approaches that rely on the integral role of families, peers, and the community. Unfortunately, legislative changes have been reactive in dealing with juvenile sexting, leading youth to become ensnared within the justice system. In the future, legislators and developmental researchers need to work together collaboratively so that science may proactively inform laws in a manner that protects the best interest of affected youths.

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