

Sexting amongst adolescents and mental health: literature review of quantitative research

Abstract

Background: Sexting amongst adolescents is not necessarily a causative factor of a mental health outcome, but difficulties in various aspects of mental health may stem from simply participating in sexting. This study aims to offer a review of quantitative research to date on the subject of the correlation between sexting and the mental health of adolescents.

Subject and methods: A systematic search of the scientific databases was conducted. The age of the participants in the research was limited to between 10 and 19 years. For sexting terminology, English terms were used: sexting, texting, sexual communication, sexual violence, and for psychological functioning terms psychological health, mental health, and emotional difficulties. The search language was English; scientific articles using quantitative methodology, meta-analysis and literature review were included. The initial search of the databases resulted in the identification of 164 articles, and 29 articles were analyzed in this study.

Results: Our data show that sexting is not only one of the additional forms of exploration of sexuality but may also be linked with emotional difficulties which then additionally affect an adolescent's decision to participate in sexting. In conclusion, it is important to take individual differences into account in understanding the complex relationship between sexting and psychosocial consequences. Further, experts in the field of mental health must emphasize the normality of consensual sexting, not necessarily to encourage it, but to offer adolescents guidelines for safe sexting, if they decide to take part in it.

Conclusion: The findings here are important for the development of programs aimed at reducing the risks related to sexting and its negative outcomes, considering the various forms of sexting and the individual differences between adolescents.

Keywords: sexting, adolescent, mental health, quantitative research, review

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Introduction

The use of digital technologies by adolescents is integrated into their lives. In fact, more than 80% of adolescents in Europe use smartphones to access the internet at least daily, and around 43% do so via their computer.¹ This shift to digital communication has created a unique opportunity to explore sexuality through the exchange of sexually explicit content such as messages, photos or videos via a mobile device or the internet, which is referred to in the literature as sexting.²

In general, sexting involves the exchange of sexual content through sending (creating and sending sexually explicit content to another person), receiving (receiving sexually explicit content from another person) and forwarding (sharing sexually explicit content with others; according to Dodaj and Sesar.³ Some authors note that publication of one's own sexually explicit content is a form of 'sexting'^{4,5} that takes place with romantic partners or peers,⁶ but also with strangers.⁷ Although research considers sexting to be a developmentally normal behavior,⁸ it can have different outcomes in relation to different types of sexting, which can be not only positively but also negative, especially if the exchange of sexting is not consensual.⁹

Recent meta-analyses and systematic reviews published to date¹⁰⁻¹² show that around 9 to 60 % of adolescents are involved in sexting, which means that sexting is more widespread among adolescents. In view of the growing frequency of the practice of sexting amongst adolescents, researchers are increasingly exploring the correlation

of sexting and various outcomes, especially in the field of mental health. Some literature reviews^{13,14} have highlighted that some aspects of mental health are in some way related to sexting, possibly as predictors of sexting behaviour or as consequences.

The aim of the current review is to investigate the relationship between sexting and the mental health of adolescents. The impact of sexting has predominantly been studied in adolescent mental health predominantly using quantitative research methods; therefore, we will rely on quantitative research data. Given the prevalence of sexting behaviour among adolescents mentioned above and the concerning rise in mental health problems among adolescents, including anxiety, depression, psychological distress, self-harm, suicidal thoughts and fatal suicides, in many countries,¹⁵ we believe it is important to provide a literature review on the relationship between sexting and mental health among adolescents. A review of research in this field will provide clinicians with valuable insight to approach the assessment of sexting behaviours on mental health with greater sensitivity and precision. Understanding how sexting influences adolescents' mental functioning will allow clinicians to identify patterns related to sexual expression through sexting, and to assess its potential impacts on emotional well-being. With this knowledge, researchers and clinicians can develop targeted interventions that address both mental health and some aspects of adolescent's sexual behaviour. Over time, these interventions can contribute to improving the overall mental and sexual well-being of young people, promoting healthier developmental outcomes.

Method

Eligibility criteria

The criteria for inclusion were established to assess the eligibility of the studies:

- 1) Studies focusing on adolescents. The age period was limited and therefore included articles in which the sample was between ten and twenty-four years;¹⁶
- 2) Studies focusing on sexting behaviour and mental health of adolescents;
- 3) Studies that used a quantitative methodology;
- 4) Studies that used cross-sectional, transversal or longitudinal design;
- 5) Original empirical articles that were available in English.

Search strategy

The literature review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).¹⁷ Between November 2024 and February 2025, we conducted a systematic search of several scientific databases for psychological journals and research: Google Scholar, Scopus, PsycINFO, ScienceDirect, ERIC, PubMed, MEDline and ISI Web of Knowledge. The age of the participants in the research was limited to 10 and 24 years, corresponding to Sawyer et al.,¹⁶ recent proposal. The following key words in English were used during the search: adolescents, adolescence, teenagers, youth. According to the several studies discussing the concept of sexting terminology¹⁸⁻²⁰ the following English terms have been used: sexting, cybersex, sexual texting, sexual text messaging, sexual communication via text, nude texting, intimate messaging, sending and receiving sexually explicit images, digital sexual communication, electronic sexual communication, explicit digital messaging, digital sexual messaging, text-based sexual expression, sexual image sharing. The terms used to operationalize psychological functioning^{21,22} were: psychological health, mental health, psychological distress, psychological well-being, mental health disorders, emotional difficulties, anxiety, depression, suicidal ideation, self-harm, stress-related disorders, internalizing problems, externalizing problems, psychiatric conditions. The comprehensive search strategy also involved screening grey literature and reviewing reference lists from the included studies to identify other potentially eligible studies. We restricted our search to the titles of papers, abstracts, key words and the text of studies. The search language was English, and only scientific articles using quantitative methodology were included.

Study selection

A flowchart for finding and choosing research is displayed in Figure 1. The initial search of the database resulted in identification of 164 articles. These articles were reviewed according to title and abstract. A total of 135 articles were excluded because they did not meet the inclusion criteria, or they did not deal with the key field of interest of the study or were duplicates. Finally, a total of 29 articles were analyzed in this study. Table 1 provides a detailed description of the key characteristics of these articles.

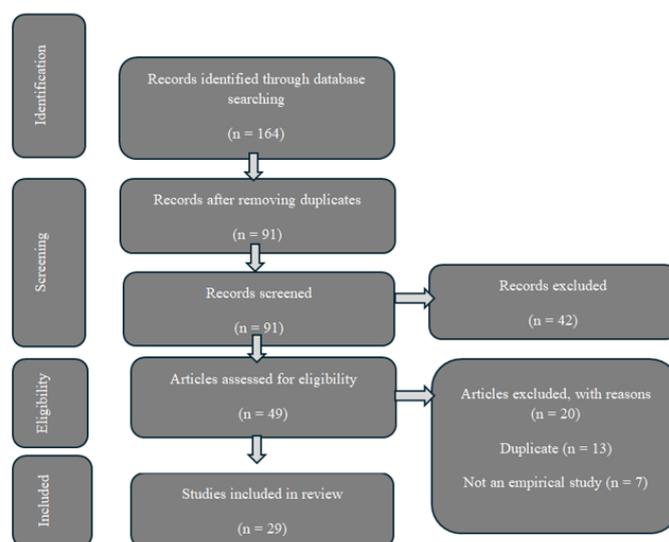


Figure 1 Flow chart of the study selection process based on PRISMA guidelines.¹⁷

Results

Many studies were conducted in the United States ($N = 14$), followed by Spain ($N = 4$), Croatia ($N = 2$), Bosnia and Herzegovina ($N = 2$), the Czech Republic, Norway, Sweden, and Belgium. Three scientific papers involved participants from multiple European countries. Sample sizes varied from 181 to 18,709 participants, with more than half of the samples ($N = 16$) including over 1,000 participants. The average age of participants ranged from 12.22 to 17.4 years. In most studies, the average age was less than 15 years old. Most of the studies were cross-sectional or transversal in design ($N = 17$), while the remaining studies used a longitudinal design ($N = 12$). One study included only female participants, while most included boys and girls ($N = 15$).

Sending was the most researched type of sexting activity ($N = 8$), followed by sending, receiving, and forwarding ($N = 3$), sending, receiving, and posting ($N = 2$). In other studies, the author(s) define different combinations of activities such as participation in sexting; exchange; sent or showed; sending and receiving; texting, e-mailing, posting, receiving; sending, receiving, and posting, etc. Some authors also categorize sexting as consensual/non-consensual and sexting under pressure, along with the type of activities.

Message content is defined in different ways in the analysed studies. Some researchers focused only on one type of content, such as photos/pictures/images ($N = 8$), sexual content ($N = 1$), or sexts ($N = 2$). In other studies, message content was defined as a combination of photos/videos/text messages ($N = 10$), text messages and sex talk ($N = 1$), videos and photos ($N = 1$). It is important to mention that, in addition to the type of sexual content, researchers in various studies also define: who is in the photos (oneself, yourself, themselves, etc.); the level of sexual explicitness of the person in the photo/video (in lingerie, undergarments, naked, nude, nearly nude, semi-nude); the level of sexuality of the content (sexually explicit, provocative, erotic,

sexual nature, suggestive, flirtatious, sexually aggressive); actual or hypothetical sexual behaviour; and the media for sharing sexts (e-mail, social networking sites, Internet, mobile devices, mobile phones).

Cross-sectional/transversal studies

Psychological difficulties as a result of participation in sexting

Lu et al.,²³ examined whether various forms of sexting predict different aspects of psychosocial health. Their findings indicate that sexting under pressure is related to hostility and an aggressive temperament, whilst receiving unwanted sexts and requesting someone to send sexts is in correlation with depression, impulsiveness, hostility, emotional dysregulation, and an aggressive temperament. Forwarding sexts without consent is related to hostility. Interestingly that consensual sexting did not significantly predict any of the aspects of psychosocial health they examined.

The association between delinquency, social, and psychological factors, and sexting behaviour (sending and receiving) was explored in Woodward et al.,²⁴ study. The focus was on nude photos. They found that females who had participated in sexting behaviour were more likely to report using alcohol and being a victim of bullying, while males were more likely to report using marijuana and being a perpetrator of bullying.

The relationship between “sexting” (sending and sharing sexual photos online, via text messaging, and in person) with sexual risk behaviours and psychosocial challenges in adolescence is found in the Ybarra et al.,²⁵ study, too. Adolescents who shared sexual photos also were more likely to use substances and less likely to have high self-esteem than their demographically similar peers.

The correlation between different types of sexting and psychological functioning is examined in Kvesić et al.,²⁶ study. Sending sexts is associated with higher scores in terms of optimism and coping strategies, general psychosocial dysfunction, and behaviour problems. Receiving sexts is associated with behaviour and relationship problems while forwarding them is not associated with any of the examined variables of psychosocial functioning.

Wachs et al.,²⁷ emphasize the positive connection between non-consensual sexting and symptoms of depression and self-harm without suicidal tendencies. On the other hand, consensual sexting was not shown to be significantly related to a negative outcome. Being the target of nonconsensual dissemination of sexual images was positively associated with depression, whereas no significant associations were yielded for self-esteem also in the Sciacca et al study.²⁸ Frankel et al.,²⁹ established that symptoms of depression, suicide attempts, and self-harm were more severe in people who participate in sexting, whether consensual (sending and receiving sexting with consent), or non-consensual sexting (experience of forwarding of their content without consent). Although the authors point out that this research cannot explain whether sexting is a cause or a consequence, Davidson et al.,³⁰ assessed the association between sexting, self-generated sexual images, watching pornography and depression, anxiety, and stress. Study results showed that engaging in all three behaviours was associated with significantly higher levels of depression, anxiety, and stress. The relationship between different types of sexting (sending, receiving, and posting) and emotional difficulties in high school pupils is confirmed in Dodaj et al.,³¹ study. Adolescents involved in sexting had suicidal thoughts and ideas more often than adolescents who didn't participate in sexting. Englander³² found that sexters had less depression than non-sexters but more anxiety, but there is no significant relationship. Sexting was defined as sending nude pictures of yourself. The potential impact of sexting was explored in a Del Rey

et al.,³³ study conducted among adolescents in Spain. They found that involvement in sexting has a clear emotional impact on adolescents. It seems, according to their study results, that sending, receiving, forwarding, and receiving sexts via an intermediary, trigger emotions related to activation in boys and girls. Some differences in emotional impact by gender were found, girls felt more depressed and annoyed in secondary sexting, and boys were more active regarding both types of sexting.

Gámez-Guadix and Incera,³⁴ bearing in mind that sexual minority groups are more prone to internalizing their problems, such as depression and anxiety, in comparison with those of heterosexual orientation, examined whether membership of a sexual minority and its consequences on mental health mediates a greater experience of various forms of on-line sexual abuse and similar risks. According to them, since adolescents more often use the internet as an introduction to sexual relationships or the realization of intimacy, they are exposed to a greater risk of online abuse, especially sexual minorities. Therefore, they presumed that online sexual abuse would affect the mental health of sexual minorities whereby membership of a sexual minority would result in greater exposure to online sexual abuse, including sexting, which would then result in a greater experience of symptoms of anxiety and depression. The results of their research show the partial mediating role of sexting, abuse based on sexual orientation and gender, and unwanted sexual attention in explaining the connection between membership of a sexual minority group and mental problems, which indicates that other aspects could also affect that connection. The authors emphasize that mental health experts working with sexual minorities should be aware of the possible experiences of victimization and potential consequences for the psychosocial outcomes of their clients.

Adolescents with psychological problems and their participation in sexting

The results of the study by Ševčíková³⁵ show that adolescents with emotional problems are more prone to a greater risk of participating in sexting (sending and publishing). Livingstone and Görzig³⁶ established that adolescents who are facing general psychological problems, such as emotional problems, behavioural difficulties, attention/hyperactivity, and problems in peer relationships, show a greater tendency to receive sexually explicit messages and experience agitation from receiving those messages. However, the effect of psychological difficulties on receiving sexually explicit content was not significant when behavioural variables were included, that is, measurements of risky online and offline activities. Dake et al.,³⁷ examined whether emotional difficulties predict participation in sending sexually explicit content and established that those with a higher level of depressive symptomatology, suicidal thoughts or attempted suicide more often take part in sexting.

Van Ouytsel et al.,³⁸ with control of demographic variables such as age, family status, and adolescents' responses to economic stress, also emphasize that increased levels of symptoms of depression predict participation in sexually explicit content.

Anxiety and depression were consistently linked to an increased likelihood of engaging in all types of risky online behaviour (sending, receiving, sharing) in research conducted by Babilonová et al.³⁹

Longitudinal studies

Psychological difficulties as a result of participation in sexting

Twelve studies used longitudinal study design to assess relation between sexting and different aspects of adolescent's mental health.^{31,33,40-50}

A study conducted by Burić et al.,⁴¹ examined the correlation between sexting and psychological well-being (depression, anxiety, and self-respect) in girls and found that the dynamics of sexting do not have a significant correlation with changes in psychological well-being. Other factors, including an unfavourable family environment and a tendency to conform to peers, correlate with increased participation in sexting and lower levels of psychological well-being. Research by Chaudhary et al.,⁴³ indicates that participation in sexting is significantly associated with symptoms of anxiety and depression. Youth who engaged in sexting at T1 exhibited significantly higher odds of anxiety and depressive symptoms at T2 than those who did not.

Some authors assessed the correlation between participation in sexting behaviour, risky sexual behaviour, general risk-taking behaviour and internalizing problems.^{42,47,49,50} Brinkley et al.,⁴² found that engaging in sexting at age 16 was associated with reporting an early sexual debut, having sexual intercourse experience, having multiple sex partners, and using drugs in conjunction with sexual activity two years later. Girls engaging in sex talk were more likely to have had sexual intercourse by age 18. In the past year, non-consensual sharing of sexual images was significantly associated with recent sexual activity; unprotected sex; alcohol use and days of use; marijuana and other drug use; delinquency and a variety of delinquent acts, elevated trauma symptoms, and internalizing problems among adolescents in Ng et al.'s⁴⁷ study. In the same line are the results of Temple et al.⁴⁹ Sending sexually explicit content was significantly linked to symptoms of depression, impulsiveness, and substance abuse in their research. Finally, the study conducted by Wrights and Wachs⁵⁰ included adolescents who belonged to heterosexual and sexual minority groups. Besides that, they assessed consensual, non-consensual and pressured sexting. According to the study's findings, both non-consensual sexting and pressured sexting had a positive correlation with each of the mental health variables (depression, self-harm, subjective health complaints) and sexual risk behaviours. For the girls, ethnic minorities, adolescents with disabilities, and sexual minorities, the relationship between non-consensual sexting and depressive symptoms was stronger. Similar patterns were found for pressured sexting, non-suicidal self-harm, and subjective health complaints. The relationships between pressured sexting and sexual risk behaviours were stronger for girls, ethnic minorities, those adolescents with disabilities, and those who identified as sexual minorities.

The relation between sending and receiving sexts and increased externalizing symptoms is confirmed in Kurup et al.,⁴⁶ study. Besides that, they found that participation in sexting in T1 decreased life satisfaction, group affiliation, self-perceived social competence, and self-confidence in T2. The association between sexting and increases in conduct problems, depression symptoms, and over time is confirmed in Frøyland et al.'s⁴⁴ study results. Boys who frequently engaged in sexting (sending, receiving, and forwarding) reported more depression symptoms and conduct problems. For girls, they found a significant between-person association for sexting and depression symptoms.

Longitudinal study results confirmed relations between sexting and features of borderline personality disorders (BPD).^{42,46} Brinkley et al.,⁴² found that text messaging about hypothetical sex in grade 10 predicted BPD features at age 18. At the same time, there are results of Kurup et al.,⁴⁶ who found that sending and receiving sexts increased the risk of features of BPD.

Adolescents with psychological problems and their participation in sexting

Some authors conducted longitudinal research to correlate sociodemographic variables, personality dimension, psychological adjustment, and participation in sexting behaviour. Dodaj et al.,³¹ found that symptoms of stress at point T1 significantly predict sending at the same time point, while in relation to symptoms of psychological distress at point T2 it was noticed that depression predicts sending and receiving sexual messages at the same time point. Participation in sending sexually explicit content at time point T2 was predicted by several factors at point T1, including older age, low conscientiousness, more extroversion, and stronger symptoms of depression in Gámez-Guadix and De Santisteban.⁴⁵ Further, lower conscientiousness, higher extraversion, and higher depression at T1 predicted sexting at T2. Conduct problems predicted increased sexting scores but only for girls, according to Frøyland et al.,⁴⁴ but sexting was not predictive of changes in depression. And finally, Mori et al.,⁴⁸ found that adolescents with higher impulsiveness and who do not live with both parents less often belonged to groups with low participation in sexting and sexual behaviour.

Discussion

The conclusions of this review highlight several important findings regarding the short-term and long-term relationships between sexting and different areas of adolescent mental health.

Overall, the cross sectional and transversal studies reveal a complex relationship between sexting and psychosocial health.^{24-26,30,31}

Cross-sectional studies

The present study's findings showed that consensual sexting is not in correlation with any of the aspects of psychosocial health.^{23,27} The results are in line with some previous meta-analytic update on sexting⁴⁸ and showing that consensual sexting as part of current or potential romantic relationships may represent normal behaviours and is often used as a safe experimental phase of sexual engagement.⁵¹ Adolescents view sexting as a method to initiate or maintain an established relationship.⁵²⁻⁵⁴ Consensual sexting is also often characterized as a means of feeling excited,⁵⁴ having fun,⁵⁵ and initiating reciprocity.⁵⁶ Thus, consensual sexting may be a low-risk type of behaviour and perhaps improve well-being. But its relationship to mental health may be complicated and hence needs more research.

While sexting can be a desirable and recognized aspect of modern adolescents' sexuality, it carries the potential for negative experiences. Studies suggest that females involved in sexting are more likely to experience bullying and use alcohol, while males are more likely to engage in bullying and use marijuana. Additionally, sexting correlates with substance use, lower self-esteem, and increased psychological issues among adolescents.^{24,25}

These results confirm the claims of some authors^{12,44} that sexting may also be conceptualized as a form of problem behaviour. Adolescents who enrol in one form of problem behaviour are predisposed to enrol in others, according to problem behaviour theory.⁵⁷

Additionally, study results showed that non-consensual sexting and sexting under pressure are linked to negative mental health outcomes, including hostility, aggressive tendencies, impulsiveness, depression, anxiety, emotional dysregulation and self-harm.^{23,27,29} According to previous studies,⁵⁸⁻⁶⁰ female adolescents primarily report feeling pressured to engage in sexting by their male peers through threats,

or coercion. Fraternity culture has been shown to exhibit sexual pressure on young women through such requests⁶¹ and this pressure causes adolescents to engage in “unwanted but consensual sexting”.⁶² Male adolescents who are coerced into gathering sexts from girls and sharing these pictures with their male peers without their consent run the risk of engaging in non-consensual sexting.⁵⁶ From the perspective of sexual socialization, sharing pictures of girls becomes normal and a form of social currency that indicates that the boys are “man enough”.⁶³ The sense of helplessness and inability to change the situation might cause stress for victims of non-consensual and sexting under the pressure. These unfavourable emotions may contribute to psychological problems (such as anxiety or depression),^{64–66} which may be why those who experience non-consensual sexting are more likely to experience psychological problems.²⁷

Involvement in sexting has distinct emotional impacts based on gender.³³ Boys feeling more activation (excitement or arousal), while girls often report negative emotions, particularly in the case of non-consensual sexting. Wood et al.,⁶⁷ stated that sexting is especially harmful to girls since they are more likely to experience humiliation and insults, which affects their reputation. Boys may therefore benefit from positive effects, such as greater acceptance among their peer group.^{7,68} Symons et al.,⁶⁹ pointed out that it seems that there are distinct patterns that explain the roles that boys and girls play in the process of negotiation and the gender-based outcomes. Furthermore, this might be linked to the type of sexting behaviour being analysed, culturological influence, and sexual orientation.

Sexual minorities are particularly more vulnerable in the context of sexting, which is linked to greater mental health struggles such as depression and anxiety. Victimization, particularly in the context of gender and sexual orientation, has a notable impact on their psychosocial well-being.³⁴ It should be noted that adolescents who identify as sexual minorities are not more likely than heterosexual adolescents to engage in non-consensual sexting.⁷⁰ Since LGBT youth are frequently excluded, harassed, and marginalized in the group of peers, especially in traditional societies, they are particularly susceptible to sexual aggression online. Further, they are more likely to be requested to set and to feel forced into sharing a sexually explicit photo of oneself than their straight counterparts.⁷⁰ Additionally, they might not be able to confide in their family or share such experiences as their heterosexual friends.⁷¹ This is something that clinicians and counsellors should be aware of.

Multiple studies have shown that emotional problems, especially symptoms of depression and suicidal thoughts, significantly increase the likelihood of participating in sexting.^{35,37,38} This is consistent with the findings of Vasilenko et al.,⁷² who pointed out that adolescents who have problems with regulation of emotion may behave impulsively. Failure to regulate emotional impulses, particularly when feeling lonely or angry, can lead to involvement in sexting behaviour. Young people, when they lack the strategies for better emotion regulation, occasionally use sexting to avoid unpleasant feelings.⁷³ Further, research shows that risk-taking activities, such as sexting, are associated with emotional control issues.^{72,74} Additionally, sexting is a common way for adolescents who are depressed or anxious to express their emotions or deal with unpleasant emotions. Sexting could be a means for them to feel connected to people or to momentarily get away from their mental health issues. Furthermore, those who are depressed cannot completely comprehend the repercussions of sexting, which can make them more likely to engage in it. According to research by Lehmler et al.,⁷⁵ sexting behaviour was significantly predicted by anxiety and sadness. Additionally, sexting can be used by

people with high anxiety levels to cope with feelings of insecurity or to get peer approval.⁷⁶

However, while emotional and psychological difficulties are strong predictors of sexting behaviour, other factors such as risky online behaviours, peer influences, and demographic variables also play important roles.^{36,39} We can conclude that understanding connections between sexting and previous risky online behaviour and other variables such as peer influence and gender, may help in the distinction between those who are low-risk and high-risk for involvement in sexting. By understanding individual differences, researchers may be able to prevent the serious consequences of sexting by identifying those who are the most at risk for it. Additionally, these findings highlight the need for targeted interventions aimed at supporting adolescents with emotional distress and promoting safer online behaviour to reduce the risks associated with sexting.

Longitudinal studies

The twelve studies examine the relationship between sexting and different aspects of adolescent mental health, using longitudinal study designs. These studies focus on various outcomes such as depression, anxiety, self-esteem, risky behaviours, and the potential development of mental health disorders like borderline personality disorder (BPD).

Burić et al.,⁴¹ suggest that sexting does not significantly affect psychological well-being (e.g., depression, anxiety, self-respect), though other factors like family environment play a role in mental health. In line with these results are the results of systematic review conducted by Liu et al.⁷⁷ The authors point out that families and family’s context are very important in balancing screen media use and mental health in adolescence. Pistoni et al.,⁷⁸ concluded that a parenting approach that promotes disclosure may help adolescents explore safely their sexuality. Results of their study also indicate that parents need to build educational alliances with schools to promote sexual health and to prevent risk of harm. To fully understand the complex interaction between sexting, adolescent mental health, and family relationships, more research is needed, along with improvements in measurement and methodology.

Several studies^{42,47,49,50} found that sexting is linked to risky sexual behaviours, substance use and delinquency. Risky behaviours can occur in multiple settings in adolescence and adolescents can participate in a wide range of dangerous activities. Technology use has increased dramatically over the past 20 years, and taking risks online is new form of risky behaviour among.⁷⁹ High impulsivity, the illusion of invulnerability, and the tendency to hedonism and to experiment is characteristic of risky behaviour⁸⁰ but it is characteristic of sexting, too.^{81,82} It seems, therefore, that in some circumstances, sexting can be viewed as risky behaviours too and can contribute to other forms of risky behaviour in adolescence.^{83,84} Additionally, Kurup et al.,⁴⁶ confirmed a relationship between sexting and externalizing symptoms, including conduct problems. These findings are in line with previous research linking sexting and other sexually risky behaviours with conduct problems (CP).⁸⁵ Understanding the potential consequences of sexting make identification of youth who are most likely to engage in these behaviours. Also, these findings suggest that school- or family-based initiatives targeted at preventing sexting should include specific activities that encourage a healthy use of curiosity and experimentation in the use of technology in adolescent communication, such as interpersonal relationships.

Longitudinal data indicate that sexting (sending and receiving) can be a risk factor for the development of BPD traits, as evidenced by

both Brinkley et al.,⁴² and Kurup et al.⁴⁶ It seems that personality traits may influence how young people use technology to communicate with others, especially in romantic relationships, given the links found in earlier research between personality traits and technology-related activities.^{86,87} Further, researchers have found that sending sexually suggestive messages is associated with certain types of impulsivities, particularly sexual impulsivity^{20,88} what is characteristic of BPD,⁸⁹ which may suggest a connection between these two variables. Based on the, it can be concluded that some psychological factors are associated with sexting, either as consequences or as predictors of sexting.¹³ These studies overall show that sexting can have significant long-term impacts on adolescent mental health, with effects ranging from depression and anxiety to risky behaviours and personality disorders.

Finally, a series of studies explored factors influencing sexting behaviours, focusing on sociodemographic variables, personality traits, psychological adjustment, and participation in sexting.

Dodajet al.,³¹ found that stress symptoms at one point predicted sending sexts, while depression predicted both sending and receiving. Results are in line with statement of Temple et al.⁹⁰ They state that sexting is on some way a coping strategy used by individuals who are under stress to deal with emotions like worry or loneliness. When coping with stress, sexting may provide momentary emotional relief or the feeling of intimacy. According to a study by Miller et al.,⁹¹ stress is linked to mental health conditions including anxiety and depression, which can make people more likely to use sexting as a means of escaping or distract attention from unpleasant feelings. Finally, according to Ybarra et al.,⁹² individuals who are under stress or have poor mental health are more prone to sext because they are less able to make responsible choices and seek ways to alleviate their emotional pain. Even though stress can serve as a predictor of sexting, the wider social, emotional, and psychological circumstances in which sexting takes place must be considered. By being aware of these variables, treatments can be more effectively focused on reducing the negative impacts of sexting, especially for distressed adolescents.

Gámez-Guadix and De Santisteban⁴⁵ identified that older age, lower conscientiousness, higher extroversion, and more depression at one point predicted sexting behaviours later. It seems, that in addition to demographic variables, personality may influence a person's decision to sext. More text messaging was found to be associated with neuroticism, extroversion, and low conscientiousness in study of Butt and Philips.⁸⁷ Additionally, it was found that whereas extraversion and neuroticism were associated with greater time spent texting, low levels of agreeableness were linked to more time spent on conversations via phone and texting.⁹³ Its seemingly that whenever we are trying to understand sexting behaviour among adolescent, we need to consider personality dimensions.

Some authors^{44,48} found that conduct problems and impulsivity led to increased sexting among girls. Adolescents with conduct problems may have a higher tendency toward impulsivity and risk-taking behaviours.^{94,95} These traits can make them more likely to engage in sexting, which is often seen as a risky and impulsive behaviour⁹⁶ especially when considering the potential consequences, such as privacy violations or legal issues. Conduct problems are often associated with a disregard for social rules and norms. Adolescents who engage in such behaviour may not fully appreciate the risks involved in sexting, such as the possibility of images being shared without consent or the emotional harm that could come from sending sexually explicit content. Research has shown that individuals with externalizing behaviours tend to have lower levels of moral reasoning

and may engage in behaviours like sexting without fully understanding the consequences.⁹⁷

Understanding the relationship between conduct problems and sexting, especially in girls, can help in developing targeted prevention and intervention strategies. Programs that focus on reducing conduct problems, teaching emotional regulation, and promoting healthy relationships can potentially mitigate the risks of sexting and other risky behaviours.

Limitations of studies included in the scoping review

The research included in this literature review was conducted only in certain geographical areas, precisely Europe and North America. However, to better understand cultural differences in the consequences of sexting behaviour, specifically on the mental health of adolescents, it is necessary to conduct cross-cultural research on sexting and research in other parts of the world. Research conducted so far showed that specific individual predictors have a strong influence on sexting due to characteristics that these countries share,⁹⁸ so we can assume that the same can apply in the context of the mental health consequences of sexting. In traditional culture, more conservative attitudes, unequal gender roles and restrictive attitudes towards sexual behaviour^{99,100} negative consequences can be more prevalent, especially among girls and sexual minorities. Religious culture also plays an important role in society as one of the factors that determines moral rules and has a great influence on the perception of sexual behavior.¹⁰¹ Investigating contextual factors, next to individual factors across different countries may thus provide a more comprehensive picture of the mental health of youth engaged in sexting behaviour.

The scientific community in recent years has been concerning on sample size calculation in research. Even while it might initially appear that methodological concerns are the focus, this worry is completely justified.¹⁰² Sample sizes varied significantly across the research included in this review. Faber and Martin Fonseca¹⁰² emphasize that when making clinical judgments, a researcher may be led in different directions by two studies that use the same approach and provide comparable results but differ only in sample size. Consequently, it is optimal for samples to be neither too little nor, as one may believe, too large if we would like to compare results and make conclusions. In context of sexting research that is even more important, because research in this area struggling with numbers of methodological problems.¹⁰³

Researchers who study sexting believe that the choice of research method is extremely important for understanding sexting and it correlates.¹⁰⁴ Most of the studies, in this review, were cross-sectional or transversal in design, while the remaining studies used a longitudinal design. Although the results of longitudinal research offer valuable information on changes over time, they do not prove causation. These studies can show patterns and correlations between different types of sexting behaviour and mental health, but they are unable to provide concrete evidence that one variable directly affects another. In contrast, the cross-sectional studies complicate the task of establishing casual relationships between these two main variables.¹⁰⁵ Therefore, our capacity to make strong conclusions on causal relationships in this field is limited by the shortage of longitudinal research.

Sending was the most researched type of sexting activity, followed by sending, receiving, and forwarding, sending, receiving, and posting. In other studies, the author(s) define different combinations of activities such as participation in sexting; exchange; sent or showed; sending and receiving; texting, e-mailing, posting, receiving; sending, receiving, and posting, etc. Some authors also categorize sexting as

consensual/non-consensual and sexting under pressure, along with the type of activities. While research in the last decade has focused on the potential negative consequences associated with involvement in sexting, the data are limited by failing to differentiate consensual from non-consensual sexting and account for potential consequences in these contexts.¹⁰⁶ Further, consensual and non-consensual sexting cannot be understood in the same way,¹⁰⁷ specifically in the context of consequences. Finally, when we analyse consequences of sexting and make conclusions, it is important to distinguish between different types of sexting behaviour and taking into account the concept of consent.

A review of the research shows that authors differ in the definition of the format of sexting content. Some researchers focused only on one type of content, such as photos/pictures/images, sexual content, or sexts. In other studies, message content was defined as a combination of photos/videos/text messages, text messages and sex talk, videos and photos. It is important to mention that, in addition to the type of sexual content, researchers in various studies also define who is in the photos, the level of sexual explicitness, the level of sexuality of the content, and the media for sharing sexts. With the development of digital technology, new formats of sexting behaviour are also developing, and therefore it is very important to be aware that sexting behaviour is a dynamic construct and that adjustments to the definition are necessary in accordance with technological changes but also is important to understand who changes in definition of sexting in research influence data on consequences of sexting.

Limitations of current review and implications for further research

Despite our aim to summarise the available evidence, this review has several important limitations. Firstly, our search was limited to English-language publications, which may have led to a linguistic bias, as relevant studies published in other languages were excluded. Second, the studies we included spanned a relatively long period of 10 to 24 years, covering both early and late adolescence. However, participants are exposed to very different developmental challenges in early and late adolescence. This heterogeneity may limit direct comparability between age groups but also broadens the developmental scope of our findings. Third, we opted for a narrative synthesis rather than a quantitative meta-analysis because the included studies differed markedly in terms of design, measurement instruments, and correlates examined, so it was not possible to calculate pooled effect sizes or perform more rigorous statistical syntheses. Future research would benefit from investigating the specific psychological mechanisms that link sexting to both negative outcomes (e.g., emotional distress) and positive outcomes (e.g., increased intimacy). Longitudinal studies should be favoured to provide a more solid basis for causal conclusions. Researchers should include appropriate control groups and control variables, such as baseline levels of psychological functioning, to more accurately assess the unique effects of sexting behaviour over time.

Conclusion

This review shows mixed results on the relationship between sexting and mental health. Cross-sectional studies suggest that consensual sexting may have a positive association with mental health, while sexting without consent and under pressure typically correlates with negative psychosocial outcomes, particularly depression and anxiety. These studies also emphasise the importance of gender and sexual orientation in moderating these relationships. Interestingly, longitudinal research does not consistently link sexting without consent to poorer mental health, but emphasises the crucial role of contextual factors, such as family environment and peer influence

— in shaping outcomes over time. Overall, the patterns observed between sexting and adolescent mental health emphasise the need for a nuanced approach.

Author contributions

Conception and design: KS and AD; Acquisition, analysis and interpretation of data: KS, AD, AK, IM, MM and AM; Drafting the article: KS, AD, AM and AK; Revising it critically for important intellectual content: KS, AD, AK, IM, MM and AM; Approved final version of the manuscript: KS and AD.

Data availability statement

The data/papers that support the findings of this study are available from the corresponding author upon reasonable request.

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Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- Smahel D, Macháčková H, Mascheroni G, et al. EU Kids Online 2020: survey results from 19 countries. *EU Kids Online*. 2020.
- Döring N. Consensual sexting among adolescents: risk prevention through abstinence education or safer sexting? *Cyberpsychology*. 2014;8(1):9.
- Dodaj A, Sesar K. Sexting categories. *Mediterr J Clin Psychol*. 2020;8(2).
- Walker K, Sleath E, Hatcher RM, et al. Nonconsensual sharing of private sexually explicit media among university students. *J Interpers Violence*. 2021;36(19–20):9078–9108.
- Ybarra ML, Alexander C, Mitchell KJ. Depressive symptomatology, youth Internet use, and online interactions: a national survey. *J Adolesc Health*. 2005;36(1):9–18.
- Van Ouytsel J, Lu Y, Shin Y, et al. Sexting, pressured sexting and associations with dating violence among early adolescents. *Comput Hum Behav*. 2021;125:106969.
- Burén J, Lunde C. Sexting among adolescents: a nuanced and gendered online challenge for young people. *Comput Hum Behav*. 2018;85:210–217.
- Hasinoff AA. Sexting as media production: rethinking social media and sexuality. *New Media Soc*. 2013;15(4):449–465.
- Barroso R, Marinho AR, Figueiredo P, et al. Consensual and non-consensual sexting behaviors in adolescence: a systematic review. *Adolesc Res Rev*. 2023;8(1):1–20.
- Hands Schuh C, La Cross A, Smaldone A. Is sexting associated with sexual behaviors during adolescence? a systematic literature review and meta-analysis. *J Midwifery Womens Health*. 2019;64(1):88–97.
- Madigan S, Ly A, Rash CL, et al. Prevalence of multiple forms of sexting behavior among youth: a systematic review and meta-analysis. *JAMA Pediatr*. 2018;172(4):327–335.

12. Mori C, Park J, Temple JR, et al. Are youth sexting rates still on the rise? a meta-analytic update. *J Adolesc Health*. 2022;70(4):531–539.
13. Gassó AM, Klettke B, Agustina JR, et al. Sexting, mental health, and victimization among adolescents: a literature review. *Int J Environ Res Public Health*. 2019;16(13):2364.
14. Mori C, Temple JR, Browne D, et al. Association of sexting with sexual behaviors and mental health among adolescents: a systematic review and meta-analysis. *JAMA Pediatr*. 2019;173(8):770–779.
15. Keyes KM, Platt JM. Annual research review: sex, gender, and internalizing conditions among adolescents in the 21st century - trends, causes, consequences. *J Child Psychol Psychiatry*. 2024;65(4):384–407.
16. Sawyer SM, Azzopardi PS, Wickremarathne D, et al. The age of adolescence. *Lancet Child Adolesc Health*. 2018;2(3):223–228.
17. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467–473.
18. Drouin M, McDaniel BT, Papp LM, et al. Prevalence and characteristics of sexting among college students. *Comput Human Behav*. 2013;29(4):1681–1689.
19. Mitchell KJ, Finkelhor D, Jones LM, et al. Prevalence and characteristics of youth sexting in the United States. *JAMA Pediatr*. 2012;166(12):1137–1143.
20. Ybarra ML, Mitchell KJ. “Sexting” and its relation to sexual activity and sexual risk behavior in a national survey of adolescents. *J Adolesc Health*. 2014;55(6):757–764.
21. Birmaher B, Brent DA. Adolescent depression and suicidality: a review of the literature. *J Am Acad Child Adolesc Psychiatry*. 2007;46(10):1214–1223.
22. Holt-Lunstad J, Smith TB, Layton JB. Social relationships and mortality risk: a meta-analytic review. *PLoS Med*. 2010;7(7):e1000316.
23. Lu Y, Liu Y, Wang Z. The association between sexting and adolescent mental health: a meta-analysis. *J Youth Adolesc*. 2021;50(10):1895–1910.
24. Woodward VH, Evans M, Brooks M. Social and psychological factors of rural youth sexting: an examination of gender-specific models. *Deviant Behav*. 2017;38(4):461–476.
25. Ybarra ML, Mitchell KJ. Prevalence and characteristics of adolescent sexting in the United States. *JAMA Pediatr*. 2014;168(9):876–882.
26. Kvesić A, Dodaj A, Krešo K, et al. The relationship between adolescent sexting and psychosocial functioning. *Soc Psychiatry*. 2024;52(1):28–46.
27. Wachs S, Wright MF, Gámez-Guadix M, et al. How are consensual, non-consensual, and pressured sexting linked to depression and self-harm? The moderating effects of demographic variables. *Int J Environ Res Public Health*. 2021;18(5):2597.
28. Sciacca B, Mazzone A, Loftsson M, et al. Happy or unhappy? Mental health correlates of receiving sexts and unsolicited sexual images. *Youth Soc*. 2024;56(7):1315–1335.
29. Frankel AS, Bass SB, Patterson F, et al. Sexting, risk behavior, and mental health in adolescents: an examination of 2015 Pennsylvania youth risk behavior survey data. *J Sch Health*. 2018;88(3):190–199.
30. Davidson J, Aiken M, Gekoski A, et al. Understanding adolescent criminal and risky online sexual behaviors in the context of mental health and well-being: findings from a multi-national European cybercrime study. *Victims Offenders*. 2025;20(7):1331–1356.
31. Dodaj A, Sesar K, Cvitković M. Sexting and emotional difficulties in high school pupils. *Int J Acad Res Psychol*. 2019;6(1):1–15.
32. Englander E. Low risk associated with most teenage sexting: a study of 617 18-year-olds. *MARC Res Rep*. 2012;(6).
33. Del Rey R, Ojeda M, Casas JA, et al. Sexting among adolescents: the emotional impact and influence of the need for popularity. *Front Psychol*. 2019;10:1828.
34. Gámez-Guadix M, Incera D. Homophobia is online: sexual victimization and risks on the internet and mental health among bisexual, homosexual, pansexual, asexual, and queer adolescents. *Comput Human Behav*. 2021;119:106728.
35. Ševčíková A. Girls’ and boys’ experience with teen sexting in early and late adolescence. *J Adolesc*. 2016;51:156–162.
36. Livingstone S, Görzig A. When adolescents receive sexual messages on the internet: explaining experiences of risk and harm. *Comput Human Behav*. 2014;33:8–15.
37. Dake JA, Price JH, Maziarz L, et al. Prevalence and correlates of sexting behavior in adolescents. *Am J Sex Educ*. 2012;7(1):1–15.
38. Van Ouytsel J, Van Gool E, Ponnet K, et al. Brief report: the association between adolescents’ characteristics and engagement in sexting. *J Adolesc*. 2014;37(10):1387–1391.
39. Babilonová T, Suchá J, Dostál D, et al. Risky online behavior in relation to social support, depression, and anxiety in Czech adolescents. *Comput Hum Behav Rep*. 2024;16:100484.
40. Alonso C, Romero E. Conducta de sexting en adolescentes: predictores de personalidad y consecuencias psicosociales en un año de seguimiento. *An Psicol*. 2019;35(2):214–224.
41. Burić J, Garcia JR, Štulhofer A. Is sexting bad for adolescent girls’ psychological well-being? A longitudinal assessment in middle to late adolescence. *New Media Soc*. 2021;23(1):1–20.
42. Brinkley DY, Ackerman RA, Ehrenreich SE, et al. Sending and receiving text messages with sexual content: relations with early sexual activity and borderline personality features in late adolescence. *Comput Human Behav*. 2017;70:119–130.
43. Chaudhary P, Peskin M, Temple JR, et al. Sexting and mental health: a school-based longitudinal study among youth in Texas. *J Appl Res Child*. 2017;8(1):11.
44. Frøyland LR, Tokle R, Burdzovic Andreas J, et al. Sexting and mental health in adolescence: a longitudinal study. *J Adolesc Health*. 2024;75(4):584–590.
45. Gámez-Guadix M, De Santisteban P. “Sex pics?”: longitudinal predictors of sexting among adolescents. *J Adolesc Health*. 2018;63(5):608–614.
46. Kurup AR, George MJ, Burnell K, et al. A longitudinal investigation of observed adolescent text-based sexting and adjustment. *Res Child Adolesc Psychopathol*. 2022;50(3):431–445.
47. Ng MY, Harrison A, Bath E, et al. Sexting and behavioral health in first-time justice-involved adolescents. *Child Youth Serv Rev*. 2021;132:106298.
48. Mori C, Choi HJ, Temple JR, et al. Patterns of sexting and sexual behaviors in youth: a latent class analysis. *J Adolesc*. 2021;88:97–106.
49. Temple JR, Le VD, van den Berg P, et al. Brief report: teen sexting and psychosocial health. *J Adolesc*. 2014;37(1):33–36.
50. Wright MF, Wachs S. Longitudinal associations between different types of sexting, adolescent mental health, and sexual risk behaviors: moderating effects of gender, ethnicity, disability status, and sexual minority status. *Arch Sex Behav*. 2024;53(3):1115–1128.
51. Burkett M. Sex(t) talk: a qualitative analysis of young adults’ negotiations of the pleasures and perils of sexting. *Sex Cult*. 2015;19(4):835–863.
52. Van Ouytsel J, Van Gool E, Walrave M, et al. Sexting: adolescents’ perceptions of the applications used for, motives for, and consequences of sexting. *J Youth Stud*. 2017;20(4):446–470.
53. Van Ouytsel J, Punyanunt-Carter NM, Walrave MS, et al. Sexting within young adults’ dating and romantic relationships. *Curr Opin Psychol*. 2020;36:55–59.

54. Walker S, Sancil L, Temple-Smith M. Sexting: young women's and men's views on its nature and origins. *J Adolesc Health*. 2013;52(6):697–701.
55. Lippman JR, Campbell SW. Damned if you do, damned if you don't... if you're a girl: relational and normative contexts of adolescent sexting in the United States. *J Child Media*. 2014;8(4):371–386.
56. Ringrose J, Regehr K, Whitehead S. "Wanna trade?": cisheteronormative homosocial masculinity and the normalization of abuse in youth digital sexual image exchange. *J Gend Stud*. 2021;39(5):617–635.
57. Jessor R. *The origins and development of problem behavior theory: the collected works of Richard Jessor*. Cham: Springer; 2016.
58. Kernsmith PD, Victor BG, Smith-Darden JP. Online, offline, and over the line: coercive sexting among adolescent dating partners. *Youth Soc*. 2018;50(7):891–904.
59. Maes C, Vandenbosch L. Physically distant, virtually close: adolescents' sexting behaviours during a strict lockdown period of the COVID-19 pandemic. *Comput Hum Behav*. 2022;126:107033.
60. Sparks B. A snapshot of image-based sexual abuse (IBSA): narrating a way forward. *Sex Res Soc Policy*. 2022;19(2):689–704.
61. Sanday PR. *Fraternity gang rape: sex, brotherhood, and privilege on campus*. New York: NYU Press; 2007.
62. Drouin M, Tobin E. Unwanted but consensual sexting among young adults: relations with attachment and sexual motivations. *Comput Hum Behav*. 2014;31:412–418.
63. Roberts S, Ravn S, Maloney M, et al. Navigating the tensions of normative masculinity: homosocial dynamics in Australian young men's discussions of sexting practices. *Cult Sociol*. 2021;15(1):22–43.
64. Drouin M, McDaniel BT, Pater JA, et al. Sexting and depression: a longitudinal analysis of the relationships between adolescent sexting, depression, and substance use. *Comput Hum Behav*. 2017;66:231–238.
65. Seligman ME. *Helplessness*. San Francisco: Freeman; 1975.
66. Seligman MEP. *Learned optimism*. New York: Pocket Books; 1992.
67. Wood M, Barter C, Stanley N, et al. Images across Europe: the sending and receiving of sexual images and associations with interpersonal violence in young people's relationships. *Child Youth Serv Rev*. 2015;59:149–160.
68. Speno AG. *Adolescent sexting: an examination of the psychosocial contributions to the creation and sharing of sexual images [dissertation]*. Columbia, MO: University of Missouri-Columbia Press. 2016.
69. Symons K, Ponnet K, Walrave M, et al. Sexting scripts in adolescent relationships: is sexting becoming the norm? *New Media Soc*. 2018;20(10):3836–3857.
70. Van Ouytsel J, Walrave M, Ponnet K. An exploratory study of sexting behaviors among heterosexual and sexual minority early adolescents. *J Adolesc Health*. 2019;65(5):621–626.
71. Pascoe CJ. Resource and risk: youth sexuality and new media use. *Sex Res Soc Policy*. 2011;8(1):5–17.
72. Vasilenko SA, Piper ME, Lanza ST. Impulsivity and risk-taking as predictors of problematic behaviors: a prospective study. *Psychol Addict Behav*. 2014;28(4):1149–1159.
73. Bianchi D, Morelli M, Baiocco R, et al. Individual differences and developmental trends in sexting motivations. *Curr Psychol*. 2021;40(9):4531–4540.
74. Mori C, Temple JR, Browne D, et al. Association of sexting with sexual behaviors and mental health among adolescents: a systematic review and meta-analysis. *JAMA Pediatr*. 2019;173(8):770–779.
75. Lehmler JJ, Ioerger M. Social networking smartphone applications and sexual health outcomes among men who have sex with men. *PLoS One*. 2014;9(1):e86603.
76. Drouin M, Miller DA, Dibble JL. Facebook or memory: which is the real threat to your relationship? *Cyberpsychol Behav Soc Netw*. 2015;18(10):561–566.
77. Liu X, Liu J, Flores DD, et al. Family factors related to adolescent screen media use and mental health outcomes: a systematic review and recommendation for practices. *J Adolesc*. 2024;96(7):1401–1427.
78. Pistoni C, Martinez Damia S, Alfieri S, et al. What are the predictors of sexting behavior among adolescents? The positive youth development approach. *J Adolesc*. 2023;95(4):661–671.
79. Lenhart A. *Teens, social media & technology overview 2015*. Pew Research Center; 2015.
80. Stulhofer A. Socio-cultural and psychosocial dimensions of sexual risk taking. *Medicus*. 2009;18(1):123–129.
81. Otanga H. *Impulsivity and sexting*. In: Moustafa RY, Moustafa A, editors. The psychology and neuroscience of impulsivity. London: Academic Press; 2024:47–64.
82. Ragona A, Mesce M, Cimino S, et al. Motivations, behaviors and expectancies of sexting: the role of defensive strategies and social media addiction in a sample of adolescents. *Int J Environ Res Public Health*. 2023;20(3):1805.
83. Bogner J, Hadley W, Franz D, et al. Sexting as a predictor of first-time sexual behavior among at-risk early adolescents. *J Early Adolesc*. 2023;43(4):516–538.
84. Gámez-Guadix M, de Santisteban P, Resett S. Sexting among Spanish adolescents: prevalence and personality profiles. *Psicothema*. 2017;29(1):29–34.
85. Mariamo A, Martin-Storey A, Déry M, et al. Conduct problems and sexting: gender differences. *J Child Psychol Psychiatry*. 2024;154:108154.
86. Ferguson CJ. Sexting behaviors among young Hispanic women: incidence and association with other high-risk sexual behaviors. *Psychiatr Q*. 2011;82(3):239–243.
87. Butt S, Phillips JG. Personality and self-reported mobile phone use. *Comput Hum Behav*. 2008;24(2):346–360.
88. Champion AR, Pedersen CL. Investigating differences between sexters and non-sexters on attitudes, subjective norms, and risky sexual behaviours. *Can J Hum Sex*. 2015;24:205–214.
89. Black DW, Blum N, Pfohl BM, et al. Predictors of response to systems training for emotional predictability and problem solving (STEPPS) for borderline personality disorder: an exploratory study. *Acta Psychiatr Scand*. 2009;120(1):53–61.
90. Temple JR, Le VD, Van den Berg P. The role of stress in adolescent sexting. *J Youth Adolesc*. 2014;43(6):1009–1019.
91. Miller E, Jones C. Sexting and its association with mental health issues in adolescents. *J Adolesc Health*. 2016;59(2):151–158.
92. Ybarra ML, Mitchell KJ. Does sexting increase risk for sexual victimization? *JAMA Pediatr*. 2012;166(3):313–318.
93. Ehrenberg A, Juckes S, White K, et al. Personality and self-esteem as predictors of young people's technology use. *Cyberpsychol Behav*. 2008;11(6):739–741.
94. Vasilenko SA, Piper ME, Lanza ST. Sexting and adolescent behavior: examining emotional and behavioral predictors. *Addict Behav*. 2014;40:45–52.
95. Temple JR, Choi H. Risk factors for sexting among adolescents: a review of the literature. *Int J Behav Dev*. 2016;40(4):317–330.
96. Dir AL, Cyders MA. Risks, risk factors, and outcomes associated with phone and internet sexting among university students in the United States. *Arch Sex Behav*. 2015;44(6):1675–1684.

97. Jones TL, McHugh S. Externalizing behaviors and risky sexual behaviors among adolescents: a study of sex, substance use, and delinquency. *J Adolesc Health*. 2014;55(2):211–220.
98. Baumgartner SE, Sumter SR, Peter J, et al. Identifying teens at risk: developmental pathways of online and offline sexual risk behavior. *Pediatrics*. 2012;130(6):e1489–e1496.
99. Boehnke M. Gender role attitudes around the globe: egalitarian vs traditional views. *Asian J Soc Sci*. 2011;39(1):57–74.
100. Wood W, Eagly AH. *Gender*. In: Fiske ST, Gilbert DT, Lindzey G, editors. *Handbook of social psychology*. 5th ed. Vol 1. Hoboken (NJ): Wiley; 2010;629–667.
101. Masters WH, Johnson VE, Kolodny RC. *Human sexuality*. 5th ed. Boston: Little, Brown and Company; 2006.
102. Faber J, Fonseca LM. How sample size influences research outcomes. *Dental Press J Orthod*. 2014;19(4):27–29.
103. Sesar K, Dodaj A, Odak M, et al. An outline of approaches in the research on sexting among adolescents and young adults. *Ljetopis Socijalnog Rada*. 2024;31(3):439–474.
104. Dodaj A, Prijatelj K, Sesar K. A review of mixed methods research on sexting. *Mediterr J Clin Psychol*. 2022;10(3):3551.
105. Dodaj A, Prijatelj K, Kuterovac Jagodić G. Sexting behavior among youths: nature, determinants, and consequences. *Psychol Top*. 2024;33(1):171–189.
106. Cornelius TL, Bell KM, Kistler T, et al. Consensual sexting among college students: the interplay of coercion and intimate partner aggression in perceived consequences of sexting. *Int J Environ Res Public Health*. 2020;17(19):7141.
107. Ojeda M, Dodaj A, Sesar K, et al. Some voluntarily and some under pressure: conceptualization, reasons, attitudes, and consequences of sexting among adolescents. *Telemat Inform*. 2022;75:101891.