Internet Usage, Risk-Taking Behaviour and Exposure to Sexualised Media in Adolescents.

'Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor in Philosophy by Amy Christina Wood.'

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In my first year at Liverpool studying for my bachelor's degree, I contacted Jacqueline with an idea that I had no clue of its merit. That email was sent on 25th March 2015 full of ideas and ambition. Eight years later, that email had transformed into my PhD thesis. Little did I know back then, the fight I would have on my hands to retain my offer. To Jacqueline, thank you for inspiring me, for making me a published author and for offering to take me with you when I didn't know what else to do. To Kate, thank you for going above and beyond and for fighting for me. To Jon, thank you for all the pep talks and convincing me to stick it out and wait for Susan, the best decision I made.

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"A woman is like a tea bag – you never know how strong she is until she gets in hot water."
Eleanor Roosevelt.

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Internet usage is high among adolescents who are frequently exposed to sexual material. There is little knowledge about how online activity and other factors (e.g., peers) motivate adolescent risk taking and the long-term consequence. This thesis explores adolescent risk taking, adolescents' views of online interactions, their perceptions and knowledge of sexual material, and their view of their formal sex education.

Study one was a meta-ethnography examining factors that influence adolescent risk taking online. Data from twenty-one studies of adolescent online risk taking were reviewed. Thirty-five risk factors and eighteen risk behaviours were identified. Risk behaviours were, *information sharing and privacy settings, exposure to sexualised media, engaging with and arranging to meet strangers first met online*, and *interpersonal*. Risk factors were, *internal factors*, *external factors, demographic factors*, and *internet factors*. Online risk-taking is associated with age, gender, peer acceptance, sexual exploration, being LGTB+, an ethnic minority background, and vulnerability (i.e., mental health). Being female, older, and parental supervision appear to mitigate online risk taking.

Study two examined adolescents' perceptions of online risk and sexual media using semi-structured interviews and thematic analysis. Participants aged 13-14 years ($N = 8$) were recruited from youth clubs. Three themes were identified, *social media at the forefront of adolescent life, normalisation of sexualised media and behaviour,* and *navigating risk as an adolescent.* Results show adolescents take risks online because risk taking has become normalised and sexual media exposure is common. Positive outcomes increase risk taking. Adolescents' sex education is poor, with the internet and friends seen as valuable resources.

Study three part one examined the effects of sexualised material, family, peers, social media use and mental health on sexual attitudes and behaviours using an online survey. University students ($N = 334$) aged 18-21 were recruited. Mental health, social media use, secrecy, and exposure to sexualised material influenced sexual behaviours. Sexual attitudes were influenced by sex education, mental health, exposure to sexualised material, and friends' exposure. High social media use increased exposure to sexualised material. No protective factors were found. Sexual attitudes and behaviours are strongly influenced by high exposure to sexualised material.

Study three part two explored three issues: whether the same effects found in adolescents appear in adults, whether adolescents' experiences change over time, and whether sexualised material, peer influence, family relationships, and education influence adult sexual attitudes and behaviours. Based on the same sample and survey as study three part one, sexual behaviour in adulthood appears to be affected by sexualised material. Exposure to sexualised material, mental health, and social media use influenced sexual attitudes in adulthood. Over time, sexualised material exposure, perceptions of friends' sexualised material exposure, sexual behaviour, sexual attitudes, and social media use all increase in adulthood, whereas family relationships and mental health declined. Persistent effects indicated that risky sexual behaviours and unhealthy attitudes in adulthood were influenced by exposure to sexualised material in adolescence.

Across the four studies, desensitisation, peer influence, education, and parenting emerged as factors that impact risk taking online. In the absence of appropriate interventions, it is predicted that risky sexual behaviour will increase, sexual perceptions will become distorted, sexual aggression and violence will be accepted more readily, and mental health will suffer. Chapter six discusses recommendations based on the four factors identified, and future research.

Chapter 1; Introduction

This thesis focuses upon online risk taking and exposure to sexualised material amongst adolescents. It is important to first define the population of interest. The World Health Organization (WHO) defines adolescence as *"the phase of life between childhood and adulthood, from ages 10 to 19."* The WHO definition is widely accepted in academic papers however, there are some discrepancies. For example, Radzik, Sherer and Neistein (2009), define adolescence age as 10 to 21 years, and Arnett (2000) proposes a new definition of emerging adulthood which includes the ages of 18-25. This thesis adopts the WHO definition when referring to adolescence generally. The population of interest is 13-17 years old. This is reflected in study two and would have been the sample for study three part one and four had the researcher not experienced recruitment problems. As such, young adults 18-21 were recruited for studies three and four and they were asked to reflect upon their experiences of adolescence.

Background.

The internet has been around for decades and has grown over many years to become a daily necessity for millions of people worldwide. The development of the internet and online interactions has been fast paced, with new applications being developed rapidly, in particular social media. Social media is an extremely popular product in modern-day society, accelerated by the social media platform Facebook which became open to all people (above the age of 13 with a valid email address) in 2006. It is, of course, relatively easy for those under 13 to create a social media account. It appears that following this, other social media platforms have been created, including Instagram, Snapchat and TikTok. Consequently, in 2021, nearly all children in the United Kingdom (99%) aged 3-17 years old used the internet with 89% of 12–15-year-olds using social media platforms (Ofcom, 2022). The age at which children are using the internet has been getting younger in recent years (Jones & Park, 2015),

with one fifth of children between the ages of 3 and 4 in the United Kingdom using social networks in 2021 (Dixon, 2022). Primary school-aged (11 and younger) children often have access to mobile phones and social media accounts (Bruggeman, Van Hiel, Van Hal, & Van Dongen, 2019), contrary to the stated age restriction of 13 for most social media platforms (see, https://www.saferinternet.org.uk/blog/age-restrictions-social-media-services). The internet has been a positive addition to modern day life, allowing people to have information at their fingertips, work more effectively and make connections around the world. Inevitably, there have been many emerging issues over the years, bringing about a whole new field of research into adolescent's internet use, as well as new laws and legislation. Risk taking behaviour and internet usage amongst adolescents has been a hot topic of research in recent years. Organisations such as Child Exploitation and Online Protection (CEOP) (see www.ceop.police.uk) and the National Society for the Prevention of Cruelty to Children (NSPCC) (see www.nspcc.org.uk) are regularly engaged in research, campaigns and policy development to keep children safe online. Despite these efforts, it is apparent that some adolescents continue to take risks and put themselves in danger online. This thesis investigated the experiences of adolescents online and the consequences of risk taking.

Early research.

Adolescents use the internet for several reasons, but the most common reason is social in nature (Dixon, 2022). However, despite the advantages afforded by online activity (e.g., friendship formation and maintenance), the internet poses substantial risks to adolescent users, which may be increased by risky behaviour online. Over ten years ago, academics were beginning to research the nuanced area of adolescent risk and vulnerabilities on the internet, focussing on grooming and child sexual exploitation facilitated by internet communications and online chat forums. In 2001 Mitchell, Finkelhor and Wolak published a study in response to the growing concern about children's internet use. Mitchell et al. (2001) describes the

conflicting accounts that professionals were battling with. These were, that the internet was a fantastic tool for children's learning and recreation, in contrast to posing a risk to their physical and emotional safety. These conflicting views became the starting point for subsequent research.

Mitchell, et al.'s (2001) study involved 1501 children and adolescents aged 10-17 between August 1999 and February 2000. Firstly, they created a survey called The Youth Internet Safety Survey (YISS) which was developed following focus groups with adolescents aged between 10 and 17 years. The survey was then used in the study to assess the risk factors and distress caused by unwanted sexual solicitation in adolescents. Findings showed that 19% of adolescents experienced at least one sexual solicitation online in the past year and 3% of those described the encounter as aggressive. Only 10% of the sexual solicitations were reported to a relevant body (i.e., the Police). With social media in its infancy and not widely used by the general public, the platforms examined for this study were online chat rooms and general internet use where adolescents could interact with others. This was a pioneering study and the survey developed by Mitchell et al. (YISS-1, 2000) has been used many times over the years including two further follow-on studies conducted in 2005 (YISS-2, Wolak, Mitchell & Finkelhor, 2006) and 2010 (YISS-3, Jones, Mitchell & Finkelhor, 2012). Jones, Mitchell and Finkelhor (2012) compared all three studies and found that online victimisation overall had declined each year. However, this study examined unwanted sexual solicitation and unwanted exposure to pornography and did not include exposure that was wanted.

Since Mitchell et al.'s (2001) study was published, advances on the internet have accelerated greatly with many new social media platforms, online dating sites and the ability to communicate virtually through gaming platforms. By the year 2008, there was lots of interest in researching adolescent's internet use and their experiences online. There were four

popular social media platforms in the U.K. (Facebook, Myspace, Bebo and YouTube) in wide use meaning that adolescents were spending more and more time online and shifting their socialising from in person to virtually (Anderson & McCabe, 2012). There were growing concerns about children and adolescents' safety online in the early days of internet use in mainstream society, due in part to the many unknowns it presented at the time and the increasing number of ways in which it became a central part of socialisation. Therefore in 2008, the then-prime minister, Gordon Brown, commissioned an independent review of the risks to children from exposure to inappropriate and harmful material online and in video games (see

https://publications.parliament.uk/pa/cm200708/cmhansrd/cm080327/wmstext/80327m0001.

htm#08032765000171), known as the Byron Review which gave 38 recommendations. The findings from this review prompted the government to set up the UK Council for Child Internet Safety (UKCCIS) which consists of working partnerships of professionals from the government, academia, law, and charities to help keep children safe online (see https://www.gov.uk/government/groups/uk-council-for-child-internet-safety-ukccis). The UK Council for Internet Safety (UKCIS, formerly the UK Council for Child Internet Safety [UKCCIS]) has implemented many policies and guides on topics such as sexting in schools, guidance for parents and carers whose children use social media and having internet-related guidance for industries. However, not all 38 recommendations were implemented.

In 2018, the NSPCC (2018) reviewed the progress that had been made in implementing the recommendations made in the Byron review. The NSPCC report found that only 13 recommendations from the Byron review were fully implemented including, Ofsted to include e-safety standards, tighter regulations for online advertising to children, and a consistent approach to age-rating online games. However, the government did not address the other 25 recommendations from the Byron Review which has resulted in the NSPCC report

calling for three measures for the government to implement. These are, more communication providers to demonstrate best practice in relation to child safety online, more children to know how to keep themselves safe online, and more adults to know how to keep children safe online. The NSPCC want the government to establish a minimum set of standards and statutory code of practice for online providers, including clear and consistent definitions of online abuse and exploitation.

Sexual content online

Sexualised material is widely accessed online by adolescents (Braun-Courville & Rojas, 2009; Cameron, Salazer, & Bernhardt et al., 2005; Hornor, 2020). For the purposes of this thesis, sexualised material/media is defined as any digital material that is produced and/or consumed in a sexualised manner, whether intentionally or not. This includes but is not limited to visual media, audio media, and written works. Many years ago, sexually explicit material could only be accessed through magazines or VHS rentals, however, it is now available at one's fingertips (Varghese, 2021). Social media is a preferred method for sharing sexually explicit material through friends, messages, followers, and paid advertising making it almost unavoidable for adolescents who use social media (Lewis, Somers & Guy et al., 2018). Study one of this thesis examined existing literature to gain an understanding on the research topic and to identify what motivates adolescents to take risks online. Study two examined the prevalence of exposure to sexualised media to address discrepancies in the literature.

There are inconsistencies in the amount and prevalence of exposure to sexualised material online reported in the literature. Jones et al. (2012) reported a decline year on year in unwanted exposure across the three YISS studies, and Madigan, Villani, and Azzopardi et al.'s (2018) study reported 20.3% of unwanted exposure within their sample of 12–16-year-olds. Similarly, Baumgartner, Valkenburg and Peter (2010b) reported unwanted exposure in

5.6% of male participants and 19.1% of female participants. In contrast, other studies show a higher prevalence of online exposure in their participants (see, Davidson & Adler 2020; Martellozzo, Monaghan, Peter & Valkenburg, 2006a; Weber, Quiring & Daschmann, 2012).

There are two key points in these discrepancies, 1) desensitisation, and 2) the word *unwanted*. For example, the YISS was first published in 2001 and again in 2005 and finally in 2010. The decrease in the rate of unwanted sexual solicitation went from 19% in 2001 to 9% in 2010, and the decrease in unwanted exposure to pornography went from 25% in 2001 to 23% in 2010. The decline in these percentages over the years can, to an extent, be explained by repeated exposure over time which can decrease sensitivity and increase the desire to engage. It has been well documented that adolescents become desensitised to sexual media, and study two of this thesis examined how desensitisation affects their perception of sexual media. The third and fourth studies examined whether desensitisation to sexualised material affects sexual attitudes and behaviour and whether long-term consequences can be expected. There is very limited research on whether exposure to sexualised material has any persistent effects.

Desensitisation to sexualised media.

Research suggests that some adolescents' first viewing of sexualised content can be distressing but with repeated exposure the distress may decrease due to desensitisation (Daneback, Ševčíkova & Ježek, 2018; Martellozzo et al., 2020). The normalisation can result in adolescents seeking more explicit content or a desire for repeat exposure (Lebedikova, Mylek, Subrahmanyam & Smahel, 2022; Peter & Valkenburg, 2007), particularly if those adolescents are high sensation seekers (Brown & L'Engle, 2009; Lebedikova et al., 2022; Luder, Pittet & Berchtold et al., 2011). Repeat exposure, desensitisation and normalisation of the content can have implications for the healthy sexual development of adolescents (Brown & L'Engle, 2009; Koletic, 2017; Peter & Valkenburg, 2007; Peter & Valkenburg, 2010b)

Viewing sexually explicit content, particularly with repeat exposure can result in adolescents developing a perceived realism (i.e. believing that pornography depicts real life sex) in the content viewed (Harvey, 2020; Peter & Valkenburg, 2010a; Stulhofer, Busko & Schmidt, 2012; Tan Ng, & Hoo et al., 2022) and some studies suggest that perceived realism decreases after the first sexual encounter (Doornwaard, den Boer, & Vanwesenbeeck, et al., 2017; Harvey 2020; Wright & Stulhofer, 2019;) because the reality does not affirm the perception.

Desensitisation can occur with repeated or prolonged exposure to a stimulus. Similar to classical conditioning (see, Pavlov, 1927; Watson & Rayner, 1920), systematic desensitisation is a model in Reciprocal inhibition (Wolpe, 1968) that is used in psychotherapy to treat anxiety conditions (see, Wolpe, 1958, 1968). It works by repeated exposure to an anxiety inducing stimuli, first by imagining it and then with exposure to the actual stimuli (Rachman, 1967). Brain regions such as the hippocampus, prefrontal cortex and amygdala play a role in fear processing, response, and extinction (Giustino & Maren, 2015). Repeated exposure to a stimulus can decrease sensitivity in those regions and stimulate neuroplasticity to reinforce the brain changes (De Sousa & Lodha, 2017; Fernández-Teruel, 2021), therefore achieving desensitisation. In Nicklin, Swain and Lloyd's (2020) study, they found that their participants (regardless of gender) with higher exposure to sexual content rated the content as funnier compared to those with mild or no exposure. However, they found that desensitisation theory does not work if the content is disturbing (either violently or sexually), suggesting that desensitisation depends upon the severity of the content viewed.

There are significant changes in the brain during adolescence which can aid in desensitisation, including changes to the frontal lobes (Vijayakumar, de Macks, Shirtcliff & Pfeifer, 2018). Frontal lobes are not fully developed in adolescents, impacting on high-level executive functioning such as decision-making, inhibition of inappropriate behaviour and risk

taking, social interaction, and self-awareness (Romer, Rayna & Satterthwaite, 2017). Further, the limbic system is particularly sensitive in the adolescent brain, which controls reward and pleasure feelings, and fear processing (Romer et al., 2017). It is in the limbic system where desensitisation will take effect. In addition, hormones in the brain during adolescent development facilitate sexual behaviour (Sisk & Foster, 2004). Therefore, adolescents are more prone to desensitisation because they tend to take more risks than other age groups due to brain development. This has prompted researchers to call for developmental theories to incorporate social media contexts (Nesi, et al., 2020; Subrahmanyam et al., 2006; Vannucci, et al., 2020) because it can be an integral part of adolescent development and risk-taking behaviour. This thesis identifies lack of social media within developmental contexts and solely focuses on risks online that impacts on the development of sexual attitudes and behaviours. The research aimed to investigate how young people navigate the online environment, and how social media use and exposure to sexualised material online influences their risk perceptions and sexual attitudes and behaviour.

Sensation seeking, reward and pleasure seeking are all contributing factors in adolescent risk taking (Reniers, et al., 2017; Romer et al., 2017; Steinberg et al., 2008) especially online (Khurana, et al., 2019; Sinkovic, Stukhofer & Bozic, 2013). Due to adolescent desire to risk take online, they become exposed to more sexualised material which can then result in desensitisation. In their study, Beyens, Vandenbosch and Eggermont (2015) found that boys high in sensation seeking and with an advanced pubertal stage frequently used the internet to view pornography. In addition, Luder et al. (2011) found that boys and girls were more likely to be exposed to online pornography if they were high sensation seekers. Therefore high sensation seekers may be more prone to desensitisation. Adolescents may seek out more extreme media due to desensitisation and the desire to continue being aroused, which can result in negative outcomes and vulnerabilities for adolescents. As this

literature has demonstrated so far, there is evidence to suggest that adolescents who experience repeat exposure to sexually explicit material, begin to normalise it due to desensitisation that occurs in the brain. What is less clear is how this exposure impacts upon sexual development in adolescents and whether this impact persists into early adulthood. This is addressed in study three part one and four of this thesis.

Vulnerabilities and risk taking online.

A key motivation for researchers to continue to study this area is the significant outcomes that can occur from risk taking online (Chein, Albert, O'Brien, Uckert & Steinberg, 2011), in addition to vulnerabilities and motivation to engage in this behaviour (Galvan, Hare, Voss, Glover & Casey, 2007; Savoia, Harriman, Su, Cote & Shorland, 2021). Risks such as sharing personal information, having a public social media profile, sharing indecent images, and speaking to strangers can result in significant negative experiences which can have implications in later life. In their study, Maas, Bray, and Noll (2019) conducted a two-stage study examining how online sexual experiences predict sexual health and victimisation outcomes as a result. In wave one, they surveyed 296 14–16-year-old females about their online sexual behaviours with approximately half of the sample being maltreated offline (e.g., experiencing physical or sexual abuse, or neglect). The researchers then assigned them to one of 4 categories based on the results of the survey: *Online Abstinent* (low probability of any online sexual experiences), *Online Inclusive* (high probability of all online sexual experiences), *Attractors* (high probability of attracting attention from others), and *Seekers* (high probability of seeking out sexual content and interaction). In wave two, they surveyed the participants on HIV risk, violent romantic partners, and past sexual assault. Maas et al. (2019) found that offline-maltreated participants engaged in a greater number of HIV risk behaviours experienced more physical violence and were more likely to be in the *online inclusive* group compared to non-maltreated participants. *Online inclusive* members were

more likely to report HIV risks behaviours, experience sexual assault, watch pornography, and engage in sexting. Participants in the *Seekers* group were more likely to have violent romantic partners and have experienced pregnancy. To sum up, this study showed that sexual experiences engaged in online increases the likelihood of negative offline experiences, including sexual and violent victimisation and perpetration.

Research shows that increased sexual risk taking online can increase the likelihood of being sexually solicited, exploited, or groomed. Child sexual offenders increasingly use the internet to access victims (Dombrowski, LeMasney, Ahia, & Dickson, 2004), and this type of crime can be hard to detect due to the sophisticated technology used (Marcum, Higgins, Freiburger & Ricketts, 2010). Groomers are motivated to contact potential victims if they are seen online as physically attractive, display disinhibited behaviours and show sexual behaviours online (Schoeps, Peris Hernandez, Garaigordobil & Montoya Castilla, 2020). There is also evidence to indicate that engaging in sexting increases sexual solicitation online. Gamez-Guadix and Mateos-Perez (2019) conducted a study involving adolescents aged 12-14 with a follow up study one year later. They found that sexting behaviour in the first study predicted a significant increase in sexual solicitation and increased involvement in sexting behaviours one year later. In addition, NSPCC (See www.nspcc.org.uk), conducted a large-scale study on 'Sexting' that is 'adolescent-produced sexual images via digital technologies' (Schubert & Wurf, 2014, p.190) otherwise known as 'self-produced child pornography' (Bosak, 2012). NSPCC found that this has become an increasing area of concern for specialist agencies and that it is a complex area because some of the adolescents in their study are choosing to engage in this behaviour, which is illegal, but not always coercive.

Adolescents, therefore, are shaped sexually by their early experiences in the sexual arena through what they are exposed to and how those around them perceive sex suggesting that it is not always an instinctive behaviour. In the 1970's (see Gagnon & Simon, 1973),

research on sexuality and sexual conduct began to move away from an innate, biological perspective to more of a social perspective. The theory that one's sexual behaviours, attitudes and beliefs are shaped through scripts of culture, learning and society rather than through naturalism (Simon & Gagnon, 2003) began to emerge. Consequently, Sexual Script Theory was developed (Gagnon & Simon, 1973). In Sexual Script Theory, people acquire sexual knowledge in the form of scripts. This knowledge can come from a range of sources, including influence from family and friends, their own experiences and what they have been exposed to. For example, if an adolescent is exposed to a lot of pornography, has limited education from parents and limited or no sexual experience, they can store pornographic behaviours as their own sexual scripts, especially if their peers have similar scripts. The adolescent will then store the script as a sexual behaviour guide and perceive it as socially acceptable (because they have had no conflicting evidence). This theory explains why some adolescents perceive sexual media as real and have incorrect representations of sex and relationships. Moreover, it can also explain why some adolescents with repeated or prolonged exposure to sexual content continue to engage with it and put themselves at risk. However, it is important to note that there are many other contributing factors associated with sexual risk taking online.

Factors associated with online risk taking.

There is a great amount of research into different factors associated with online risk taking in adolescents. However, what is not known is how all these factors relate to each other to motivate adolescents to take risks online. Therefore, study one examined all the relevant literature available and brought this together in a coherent manor. It categorised the factors to examine if certain factors influence certain types of risks taken which will aid practitioners to implement appropriate risk interventions. Consideration needs to be given to

factors that can motivate adolescents to take risks to aid in the prevention of victimisation and negative experiences.

Available research suggests that adolescents may go online to fill voids in their offline lives (Bonetti, Campbell & Gilmore, 2010) because they have low life satisfaction and because they can often present anonymously online which can build up their confidence, allow them to develop identities (Livingstone, 2008; Rafla, Carson & DeJong, 2014) and increase the likelihood of engaging in risky online activities (Livingstone & Helsper, 2007). The anonymity that the internet affords adolescents increases the risk of them engaging with strangers (Bayrktar, Barbovschi & Kontrikova, 2016) and form new friendships because there is a disconnect with online engagement compared to that of 'real life'. Livingstone (2008) argues that young people take risks online because they have poor internet literacy and often display their identities and personal information. In addition, adolescents might not be aware of the risks associated with the internet and might feel pressured by their peers to engage in risk taking behaviour online because it is the norm within their peer group (Branley & Covey, 2018). According to Gasso, Klettke, Agustina and Montiel (2019), simply being an adolescent is a vulnerability in itself when considering online risks. In their study, they found that online victimisation and sexting were more likely among adolescents because of factors such as peer pressure and sexual curiosity. Similarly, Whittle, Hamilton-Giachritsis, Beech and Collings (2013a) argue that adolescents are the age group most vulnerable to online grooming.

Re-victimisation is well documented in the literature, with a particular focus on sexual abuse. Researchers argue that children and adolescents who experience sexual abuse are at greater risk of sexual revictimization compared to those who have not experienced abuse (Butler, Quigg & Bellis, 2020; Papalia, Mann & Ogloff, 2021). In a longitudinal study carried out by Pittenger, Pogue & Hansen (2019) predicting sexual revictimization in children and

adolescents, they found that girls were 130% more likely to be revictimized compared to boys and those that had a mental health condition where 188% more likely to be revictimized compared to those that did not suffer with their mental health. Other predictors that they found were being of an ethnic minority, being in therapy, having domestic violence in the family and having a non-caregiving adult in the home. In addition, Turner, Finkelhor and Colburn (2023) found that offline sexual abuse was a strong predictor for online sexual abuse. Set against this background, study one aimed to collate existing literature to shed light on the processes that may link risk factors with subsequent risk behaviours. The review study also aimed to highlight protective factors, an arguably under-studied area of research. Building upon the findings of study one, that revealed a lack of qualitative accounts from adolescents, study two explored adolescents understanding of online risk and behaviours that can lead to negative consequences including sexual victimisation and in turn, impacting on mental health.

Mental health

It is important to understand the role that mental health plays in adolescent risk taking. For example, adolescents often turn to the internet because they feel lonely or socially isolated. Puri and Sharma (2016) found in a sample of one hundred students, that excessive internet use was positively related to feelings of loneliness, depression, and social isolation. Psychological symptoms increase with more frequent internet use. Similarly, in a study by Yao, Yao and Zhong (2014), they found that offline communications can reduce the psychological symptoms of frequent internet use however, online communications neutralise this effect. They describe their findings as "a worrisome vicious cycle between loneliness and internet addiction" (Yao, Yao & Zhong, 2014, p.168). Feelings of isolation and loneliness which motivate adolescents to seek friendships online can engender vulnerability to grooming, therefore placing them at risk of sexual predators. For example, when a potential

victim has been identified, groomers proceed to build a trusting relationship which lays the foundations for manipulation and deception to take place. According to Williams, Elliot, and Beech (2013), trust-building is a key stage in grooming. Victims can be unaware of the manipulation that takes place and feel that they are in a consensual relationship (Whittle, Hamilton-Giachritsis and Beech, 2015). More often than not, adolescents believe that they are in control of what they are engaging in online and are naive to the consequences (O'Connell, 2003). Although previous research identifies ways in which poor mental health influences risk taking online, what is not known is whether positive mental health acts as a protective factor in reducing risk taking online. This will be examined in all studies.

Ecological systems theory

Many researchers in this area have applied the ecological systems theory (Bronfenbrenner, 1979) which states that human development is influenced by many different factors that all contribute to the way one behaves and thinks. Within this theory there are 5 systems that contextualise development into levels of external influence with the child situated in the middle. These are, Microsystem, Mesosystem, Exosystem, Macrosystem, and Chronosystem. Each level represents a different aspect of a child's world and how they interact, from the most intimate of environments (Microsystem) to the most distant environments including culture (Macrosystem). The chronosystem recognises changes to a child's environment that have an impact on their development, for example, parental divorce, or abuse. Pilgrim and Blum (2012) applied Bronfenbrenner's (1979) theory to a series of studies that examined risk and protective factors of adolescent sexual development. They concluded that family relationships, peer relationships and home life (Microsystem), cultural attitudes (Macrosystem), and a history of abuse (Chronosystem) were all strongly associated with sexual development outcomes in adolescents. Pittenger (2016) used the ecological systems model to predict sexual revictimization in adolescence and found that there were risk

factors in each of the systems in the model. It is important to note that not all children and adolescents who are victims of sexual abuse are revictimized or go on to engage in risky sexual behaviours. With consideration given to the ecological systems model, there are many aspects that shape one's development and beliefs. One negative element in this system does not dictate the rest, and there are many protective factors that can interact with the negative ones within the system such as parental relationships and education.

Parenting.

Protective factors are key to keeping children and adolescents safe from risk taking and its consequences. In Garcia-Saiz, Sarda and Pletta et al.'s (2021) study, they report that higher levels of family communication and family satisfaction with increased social support were protective factors for sexual risk taking (e.g., condom use), particularly when associated with low levels of depression. In relation to the ecological systems model, there is an interaction between many elements that accumulate into an outcome and the outcome cannot be explained by one individual element. For example, family connectedness, which is a group of elements such as, family closeness, warmth, support, and responsiveness, is related to reduced sexual risk taking in adolescents (Markham, et al., 2003). The more family connectedness elements experienced, the higher the likelihood of reducing sexual risk taking. Kvardova, Smahel, Machackova and Subrahmanyam (2021) examined risk and protective factors of exposure to harmful online content in adolescents. They found that the effects of emotional problems and sensation seeking were moderated by the quality of the family environment and social support from friends. In addition, they argue that risk factors (e.g., emotional difficulties and high sensation seeking) for exposure to online content are buffered by a positive family environment and support from friends. Family communication and responsiveness will enable adolescents to feel that they can talk to their caregivers which will mean that they gain more knowledge and will be more likely to ask them questions and listen

to their advice. Family connectedness is explored in study three part one and four to determine if they provide any protective elements to online risk.

Shin and Ismail (2014) were interested in researching the different effects that parental influence and peer influence has on adolescent's risky social media use. They examined three elements. Parental mediation which had two sub-elements, restrictive mediation (control/restriction of the device) and active mediation (help and talking about using the internet safely). Peer mediation which consisted of active mediation, and risky social media with two sub-elements (engaging with strangers and sharing personal information). Findings showed that restrictive parental mediation increased the likelihood of engaging in both elements of risky social media use whereas active parental methods only reduced the likelihood of engaging with strangers on social media. Peer mediation increased the likelihood of sharing personal information on social media sites. Restrictive parenting methods alone can be counter-productive in safeguarding adolescents from internet risks because those methods can suppress their ability to encounter risks and effectively deal with them (Wisniewski, Jia & Xu et al., 2015). Moreover, in some cases, restrictive parental methods can increase risk taking behaviour online (Sasson & Mesch, 2014). Livingstone and Helsper (2008) found that parental attempts to filter or monitor software were not effective in reducing online risks and more often than not, caregivers were not aware of what their children were doing on the internet, nor were they knowledgeable on how to use a computer or access the internet (Wood & Wheatcroft, 2020). According to O'Connell (2003), even the most vigilant of caregivers can overlook the risks that are being taken online.

Therefore, it is important to have a combination of active and restrictive parenting mediation, to safeguard adolescents from exposure to extreme content, while allowing them to encounter risks and educate them on the risks they encounter (Steinfeld, 2021). Having an open dialogue which will educate children on internet risks and consequences is more

effective than restrictive parenting methods with no dialogue. There is inconsistent evidence on how parenting effects risk taking behaviours. Studies two and three of this thesis address these inconsistencies by examining parenting regarding relationship quality, openness, and monitoring. The uniqueness of this thesis is that it focuses on how these factors impact on sexual attitudes which in turn influences sexual behaviours and the long-term impacts of factors that influence risk taking (such as parenting), on the development of sexual attitudes and behaviours.

Education

There is a general consensus in the literature that information and education are highly effective in reducing adolescent risk taking online. Researchers state that sexual risk taking can increase due to poor internet literacy, insufficient knowledge of grooming and inconsistent education (Chiu & Quayle, 2022; Roche, Otarra & Fell et al., 2023; Wood & Wheatcroft, 2020). For example, adolescents who do not have formal sex education are half as likely to use barrier method contraception compared to those who did (Grubb, Alderman & Chung et al., 2020). Chiu and Quayle (2022) argue that adolescents have a lower perception of harm if the risks are carried out on the internet and have little awareness of coming across sexual predators online. Indeed, the adolescents understood risks, but they interpret the risks in different ways depending on whether they saw it as an opportunity or benefit rather than a risk. Moreover, adolescents seem unable to detect the deception of a perpetrator online and felt more trusting of the person if they were shown a picture (Chiu & Quayle, 2022; Wood & Wheatcroft, 2020), suggesting limited knowledge of grooming. There is very limited research on how formal sex education impacts on sexual development and the long-term implications. Study two explored this in more detail with adolescents to gain their insight into their formal sex education and internet safety education. Study two then informed questions on sex relationship and internet safety education in studies three and four. Study three part one,

therefore, investigated the amount and quality of school education to see if this relates to sexual development. In addition, study three part two investigated the long-term impact that sex education has on sexual attitudes and behaviours. The importance of understanding how adolescents view their formal sex education is vital in understanding how this influences their sexual attitudes which are a precursor for sexual behaviours. In doing so, the researcher will make recommendations for more effective education policies on topics such as sex, relationships, and internet safety, because the current policies are ineffective.

Internet safety differs from school to school as there is no statutory education policy for internet safety education from the government (see study two). The government published guidance within 'Keeping Children Safe in Education 2021 – Statutory guidance for Schools and Colleges' (Department for education, 2021). This document stated that schools and colleges should include internet safety education within the teaching of sex, relationship, and health education, which is quite vague. For example, the document suggests that schools should teach about safeguarding including online safety, without any indication of the details that should be included or how often this should be delivered. Moreover, the education that is taught lacks inclusivity for members of the Lesbian, Gay, Bisexual and Transgender community (Epps, Markowski & Cleaver, 2023; Haley, Tordoff, Kantor, Crouch, & Ahrens, 2019). The literature is scarce on up-to-date studies evaluating Internet safety education in UK schools, however there are older studies that examine it (e.g., Lorenze, Kikkas & Laanpere, 2012).

Therefore, in studies two and three of this thesis, adolescents were asked questions on their internet safety and sex and relationship educational experience in schools. Statutory guidelines, laws and legislation are imperative when it comes to protecting children and young people online however it is ineffective if adolescents and caregivers are not educated on the risks and dangers. Likewise, if adults around those adolescents are not trained to

educate and safeguard them from the internet and social media, consequently, they are at greater risk.

Knowledge of young people

As a youth worker of 17 years, I have extensive experience engaging with adolescents, and this has given me a unique insight into the pressures they experience, together with their attitudes, motivations, and behaviour. Since previous research indicates that adolescents aged 13-17 start to become more independent, take more risks, and become interested in their sexuality and relationships, this age range was selected for this thesis. In the next two sections I will refer to adolescents as young people because this is how youth workers refer to them. I will also talk in the first person to enable me to reflect on and articulate my experiences and understanding more effectively. Below I will describe my knowledge of young people and how this has benefitted me when conducting this research.

Young people are autonomous. They are in control of their decision making and risk-taking decisions and can weigh up the pros and cons of their behaviour. They are at an age that is very confusing because they are still considered as children, but they are often expected to act like adults. Young people enjoy engaging with people especially about topics that they believe themselves to be knowledgeable about. They engage well if they put trust in you and feel comfortable talking to you. They will generally open-up if they understand the agenda of the person they are talking to. For example, if they were being asked to confide in a teacher, they would be aware that this may be disclosed to a caregiver and may be reluctant to discuss sensitive issues openly. In contrast, the confidentiality policy of a youth worker is different, because a youth worker only discloses when the young person is in danger or someone else is, providing opportunities for more honest and open discussion. Our policy regarding confidentiality for young people is 'Anything you say is confidential unless you or

somebody else is in danger. We would have to tell someone. You will be fully informed of the process and what is happening.' As a consequence, young people are often more open with a youth worker in a youth club than in a formal school setting, which enables the youth worker to support them more effectively and for youth workers to develop a good understanding of the pressures experienced by young people.

All young people who attend a youth club need some type of support even if they do not think so. This could be someone to listen to them, a trusted adult, or to make friends with similar aged peers. When young people attend youth clubs, they have the opportunity to get involved in fun activities as well as regular informal education on topics such as sexual health, internet safety and alcohol. These issue-based sessions delivered in the youth club are not intended to prevent young people from taking risks entirely, rather it is to give them the information and tools necessary to make an informed decision about that risk. Young people have agency over who they interact with and what they are willing to disclose (Hart, 2016) and regularly engage in sessions that relate to risk, internet safety and sexualised media. In my unit we often deliver sessions that consist of harm reduction and early intervention strategies aimed at young people who are engaging in low level issues and need a universal, level one approach (see https://www.wirralsafeguarding.co.uk/multi-agency-thresholds/).

Therefore, even after the session, the young person may still engage in risky behaviour, but they will have developed harm reduction strategies to enable them to be safer and the youth worker will continue to work with them to aim to reduce those risks. Young people engage better if they are provided with information in a clear and respected manner rather than patronised or told what to do. They have agency to make a risk benefit analysis and know the dangers and benefits involved in each decision they make, whether that is consuming alcohol in a park at night or engaging in sexual activity for the first time. For this reason, it is typically counterproductive to tell young people that they are taking a risk when

engaging in a particular behaviour because they often do not view it as a risk and are likely to do it anyway. There is, therefore, a need to develop effective approaches to equip young people with the skills and knowledge to make informed risk decisions. Throughout each chapter in this thesis, I will offer alternatives to traditional risk eradication messages and aim to move to more informative messages that put greater emphasis on positive messages that give young people the agency to make their own decisions in a supportive manner.

Expertise of researcher

I have been a youth worker for 17 years and for the past 5 years I have been the manager of a council run Youth Space managing 6 part time youth workers. I have a certificate of higher education in youth work and psychology from The Open University, an NVQ level 2 in youth work principles, and an NVQ level 3 in youth work practices. I have also completed many training courses over the years including but not limited to CEOP (child exploitation and online protection), harmful sexual behaviours, adolescent mental health, challenging early sexualisation, sexual exploitation and the perceptions of risk, LGBTQIA+, sexual health and relationships, and drugs and alcohol. I have an enhanced DBS, and child protection and safeguarding training. I am trained to use the child exploitation checklist, early help assessment tool, Brook traffic light assessment tool, multi-agency thresholds of need, and Gillick Competencies and Fraser Guidelines. As youth workers, we follow the National Youth Agency Youth Work Curriculum (see https://www.nya.org.uk/quality/curriculum/). I am the safeguarding lead for my unit. The main areas of my role consist of attending schools to deliver issue-based sessions (e.g., sexual health and relationships, internet safety), conducting one-to-one talking therapy with young people in school or in the youth space and supporting young people within the youth space. I attend many TAF (team around the family), child in need, and child protection meetings to support the young person and be an advocate for them, in addition to any actions set for me in the meeting (e.g., working with the

young person on emotional resilience, internet safety, confidence and self-esteem). I receive referrals from schools, social care, attendance team, child and adolescent mental health services (CAMHS), youth offending team, parents/carers, and the young person themselves. We are an open access unit so young people can come along to have fun, make friends, and get involved in activities or courses we offer. Because of the open access aspect of our unit, we support young people with varied backgrounds and experiences, therefore I am experienced in working with a range of young people and with vastly different needs. Our age range is 8-19 (up to 25 with additional needs). This expertise and experience has placed me in a unique position to be able to conduct this research.

Some of the participants in this study were known to me as I am their youth worker. This needed careful consideration because they needed to understand that during the interviews, I was a researcher and not their youth worker and that if they decided not to take part, this would not affect the support they receive in the youth club. This was explained to them in detail, and they understood that participation was voluntary and had no intended benefits. However, having a pre-existing relationship with the participants can be a benefit for research (Garton & Copland, 2010; Greenleaf, Turke & Bazie et al., 2021). For example, Weinreb, Sana and Stecklov (2018) found that participants disclosed more information in their interviews to people they knew and were less likely to lie, compared to with people they did not know. Pre-existing rapport can be highly beneficial for qualitative research according to Roiha and Iikkanen (2022) however this can increase the amount of identifying data within an interview, therefore they advise to take great care when reviewing data to make sure that any identifying information is removed before analysis. A pre-existing relationship between a youth worker and a young person (i.e., myself and the participants), has established professional boundaries that are created and maintained by the youth worker and the young person collectively (Hart, 2016).

Youth workers take a holistic approach which is different from other professionals. The agenda of other professionals is often different when dealing with young people. When a student misses many lessons, an attendance worker will be assigned to improve attendance. Those who are struggling with their mental well-being will be assigned a mental health worker who will support them. The trust that youth workers gain is different from that of other adults, such as caregivers, teachers, and the police. Teachers are required to share most things that young people say or do at school with their caregivers. The relationship between a youth worker and a young person, is voluntary. As a result of this voluntary relationship, young people are able to develop a sense of trust and safety. Through trust, a relationship can be built based on mutual respect and understanding, resulting in better outcomes than punitive measures. Often, police officers will confiscate alcohol from young people and inform their parents. Therefore, there is a great deal of value in the youth worker approach because when confronted with traditional figures of authority (e.g., police officers or teachers) many young people continue to engage in risky activities out of sight and without anyone knowing they are doing it. Youth workers do not tell the young people what to do, even when they are doing things that are considered illegal (for example, underage drinking). The youth worker knows that they will continue to do these things despite their warnings, or they will simply cease telling them about it. So, the youth worker would rather communicate harm reduction messages for example, if they know that a young person is planning to have sex irrespective of contraception, they can use Gillick competency and Fraser guidelines (see, wirralsafeguaring.co.uk) to assess the situation and if appropriate, administer contraception to them and do not have to inform caregivers.

Thesis inspiration

A key motivation to develop the thesis was to understand young people's perceptions of risk especially when it came to the internet. There is limited research that gains adolescents

views on sensitive topics, and I believe this should be the foundation of adolescent research. The risk landscape has changed so much for young people. There is a definite switch in the interventions we deliver now compared to when I started working as a youth worker. When I started, the interventions and issue-based work focussed on drinking alcohol in the park, smoking cannabis and cigarettes, and sexual health. Now we do much more work on internet safety, grooming, sexting, and vaping. Young people spend more time in their rooms socialising with their friends online than they do outdoors or in parks. Therefore, this demonstrated how influential the internet has become in young people's lives.

Around ten years ago I was delivering a session on internet safety which included, information on self-produced indecent images, online risk taking, and grooming. What became apparent was that the young people were generally less concerned about online risk taking and often didn't perceive these activities as risky or able to cause harm. This was concerning given that young people were more likely to engage in risky behaviour online (e.g., speaking to strangers) compared to traditional offline risk taking (e.g., alcohol and drug taking). The young people in the session did not seem phased when they were (often) sent inappropriate images through their social media inboxes, often by strangers and older men. I asked them what they did in this situation, and they said they 'laughed and then deleted it', I asked if they reported it or told an adult, and they said no. I asked them what they would do if they saw a man exposing himself in the street and they said they would be scared and would report it and tell an adult. This fascinated me and I was motivated to research this for my undergraduate project (see Wood & Wheatcroft, 2020), which confirmed my belief that young people have varying perceptions of online risk activity and that they had limited knowledge on subjects such as grooming. In addition, the research indicated that risk taking declined with age. Taking a qualitative approach helped me fully understand the importance of research that obtains young people's views because they are the most knowledgeable on

their own experiences and they give great insight. My experiences as a youth worker and the research I conducted for my undergraduate paper each formed the basis for my PhD.

Rationale for thesis and program of study

While a range of research has been conducted in this area, there are few recent reviews that provide an integrated review of the evidence regarding internet risks and protective factors. The purpose of study one was to review the existing literature in order to identify what factors motivate adolescents to take risks online. The evidence regarding protective factors, such as parenting, is inconsistent. According to some studies, parenting can reduce risk taking, while other studies suggest that parenting may increase risk taking. There are few studies that examine protective factors, and they are primarily concerned with risk factors. It is crucial to understand why some adolescents take fewer risks online in order to gain a deeper understanding of risk taking among adolescents. Moreover, study one categorised risk behaviours and risk factors to determine which risk factors are associated with particular risk behaviours. Thus, practitioners will be able to tailor their interventions accordingly since adolescents do not necessarily engage in all types of online risks. Interventions that target specific risks will be more effective than those that target online risk taking in general. Using a strengths-based approach, practitioners can also identify protective factors to focus their interventions. Study one set the foundations for the question development in study two by identifying the areas that need exploring in more detail.

There is a lack of qualitative work with adolescents and studies are dominated by surveys and quantitative methods. It is important to note that quantitative methods do not have the ability to explore the theory of risk and mechanisms to explain its influence on behaviour. Instead, qualitative methods allow for a deeper exploration of the risk context and can provide valuable insight into how adolescents perceive and react to risk to identify and understand the underlying factors. Qualitative methods are also more effective for capturing

the complexities of risk and can provide a more nuanced understanding of the factors that shape risk behaviour. Additionally, qualitative research can provide information on the attitudes, values, and beliefs that can only be revealed through conversations and open-ended inquiry. Through semi-structured interviews with 13–16-year-olds, study two explored adolescents' perceptions of taking risks online using risk behaviours and risk factors identified in study one. This exploratory study intended to identify what adolescents engage in online, what they perceive as risky, how their friends influence them, and the prevalence of sexualised material online. A set of questions were developed in response to the findings from study one which focuses on the risk factors and risk behaviours identified. Furthermore, it explored protective factors as well as formal sex and relationship education because there has been little research on these topics. Themes were developed to identify the ways in which online interactions influence adolescent attitudes and behaviours, which then informed the survey questions in study three part one.

Literature on exposure to sexualised material is inconsistent. Various studies have been conducted over the years, some of which have reported a decline in exposure while others have reported an increase. Many studies focus on some elements of risk factors and assess their impact on sexual attitudes and behaviours, but neglect to address other factors that could also affect this relationship. Based on the findings from study two, which identified adolescents' perceptions of online risks and exposure to sexualised material, a survey was developed for university students aged 18-21 to complete. The survey examined the influence of formal education and peer influence identified in study two, along with elements of risk and protective factors that were discovered in study one in order to identify the impact these factors have on sexual attitudes and behaviours. Taking into account the literature and the findings of studies one and two, survey questions were formulated. Taking a quantitative approach for study three part one allowed these findings to be examined on a larger scale to

determine their significance. Results from the survey provided insight into how to create more effective sexual health education for adolescents, as well as how to better support them in their online activities. Additionally, it will inform the development of more effective interventions to address the risks and protect against the potential harms of online sexualised content. The age range of the study may appear to be a limitation, but it allowed the researcher to assess sex and relationship education throughout the high school years. In addition, it allowed the fourth study to be conducted in order to examine the long-term effects of exposure to sexualised material over time.

Only a few studies have examined how sexualised material affects sexual attitudes and behaviours over time. In many studies, it has been demonstrated that exposure to sexualised material may result in desensitisation, which normalises the material and increases the probability of further exposure. However, it is important to understand how these factors impact on adolescents' sexual attitudes and behaviours in order to prevent long-term negative outcomes associated with exposure to sexualised material. In study three part two, the same participants answered the same questions as they did in study three part one. A total of three analyses were conducted. First, participants' experiences of the present day were examined, and second, their experiences from high school were compared to the present day. A third analysis determined whether the risk/protective factors from high school have any long-term implications for sexual attitudes and behaviours. As one of the first studies to examine long-term impacts of sexualised material exposure, this will be valuable research in the field. The results of this study will provide vital insight into the effects of long-term exposure to sexualised material and help inform future policy and research on this important issue. It will also help to inform interventions and provide guidance for parents and educators on how to best protect adolescents from the potentially damaging effects of sexualised material.

This thesis gives a comprehensive overview of adolescents' risk-taking behaviour and exposure to sexualised material based on the findings of all four studies. Beginning with identifying the factors that motivate adolescents to take risks online, the thesis concluded with studying the long-term effects of exposure to sexualised material. Furthermore, the thesis discussed how parents and educators can protect adolescents from online risks as well as the implications of the findings for policy. This thesis examined the factors that motivate adolescents to take risks online, such as peer pressure and lack of awareness of potential consequences, as well as the impact of exposure to sexualised material on their sexual development. In addition to examining the role of parents and educators in helping adolescents make informed and safe online choices, the thesis suggested potential strategies for policy makers to protect adolescents online. Furthermore, it was found during the course of the research that there is a lack of a risk assessment tool that can be used to assess the risk-taking behaviour of adolescents online. It is therefore necessary to understand what the risk and behaviour landscape looks like for adolescents in order to develop a risk assessment tool that would identify the kinds of interventions that might be suitable for different risk levels. The thesis achieved this and going forward, the researcher will develop the risk assessment tool.

The research philosophy adopted in this thesis is pragmatism because the research problem has driven the research decisions (Muhaise, Ejiri, Muwanga-Zake, & Kareyo, 2020) and pragmatism allows the use of multiple methods and designs (Saunders, Lewis, & Thornhill, 2009), compared to other philosophies such as positivism or interpretivism that favour one method (Walliman, 2021). A multi-method approach was taken, because this allows for a collective set of findings from a diverse methodology (Johnson & Gill, 2010). A diverse range of approaches were used by the researcher in order to obtain a comprehensive

understanding of adolescent risk taking and exposure to sexualised material. In this regard, each methodology approaches the data from a different perspective.

Study difficulties and recruitment

Figure 1.1 – *Timeline of studies and recruitment*
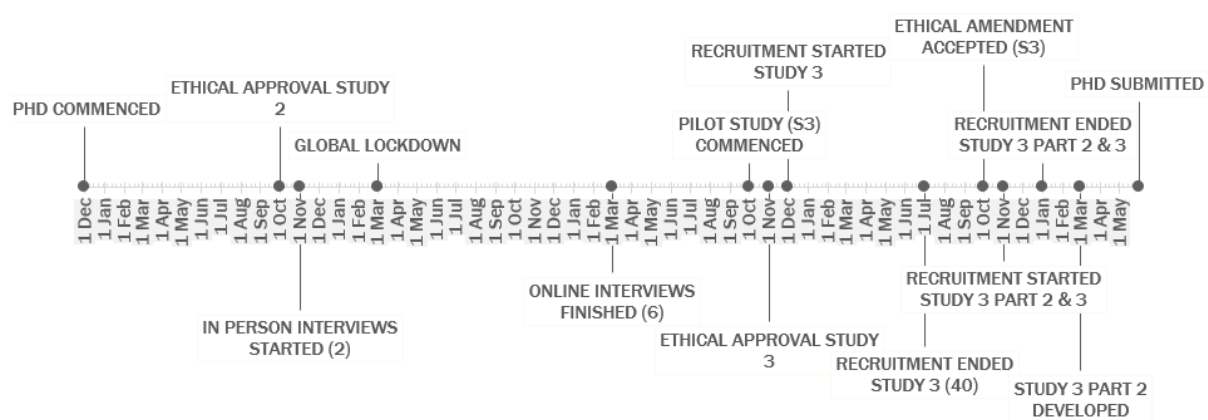
This PhD commenced in December 2018. I had new supervisors who were not familiar with my research therefore a few months were spent with my supervisors getting to know my research and altering elements of it. Then I began to develop study 2. Once this was developed, I submitted an ethics application which resulted in a lot of amendments, and I was requested to attend an ethical review board. I eventually gained ethical approval in October 2019. I began recruitment for interviews in November and managed to conduct 2 interviews and transcribed them by March 2020 when worldwide lockdown was imposed, resulting in schools and youth clubs being closed. During this time, I began to work on study 1 and also submitted an ethics amendment to conduct interviews via zoom. I finished study 1 and then continued with the online interviews of which recruitment was difficult because access to participants was difficult due to the pandemic. Gatekeepers were difficult to get hold of due to them being keyworkers. Eventually, interviews were stopped at 8 in March 2021 because I still had 2 other studies to develop. Study 3 part 1 began to be developed in April 2021 and ethical approval took a long time due to the nature of the study. Many amendments were

required including the development of the pilot study to provide evidence that the young people were able to understand and answer the questions. The pilot study was conducted in October 2021 and then an amendment was submitted to ethics with the revised documentation. Recruitment for original study 3 part 1 began in December 2021. During this time, I finalised study 2. The process of recruitment for study 3 part 1 was to identify a gatekeeper who would be responsible for contacting schools to ask them to send out emails and electronic consent forms for the participants. I was then able to access an email address off the consent forms to send the survey link to. Despite the backing of the local council, the head of the safeguarding board, and the pastoral leads at the schools, I was only able to recruit 40 participants by July 2022. Schools were then closed for the summer and time was running out, therefore Study 3 part 1 had to be changed. Throughout the summer, study 3 part 1 was amended to include a retrospective section and a present-day element. Education was also included as the participants had finished high school and could share their views of this. Unfortunately, this meant that I would not be able to develop the risk assessment tool as part of my PhD. The main reasons for this are because the survey was going to be the basis for the tool, but it had now been altered and was not going to being piloted with adolescents, therefore it was no longer authentic. Similarly, I had 8 months to data collect, analyse, and write study 3 part 1, plan/develop another study and write it, and write the rest of the thesis and submit. In March 2023 study 3 part 1 was finished and study 3 part 2 was developed. Everything was finalised 2 months later, and the thesis was submitted in May 2023.

Outline of studies

Study 1: A review examining factors that influence internet risk taking in adolescents.

This study reviewed all the literature on factors that influence risk taking behaviour in adolescents. The identified factors were categorised as 'risk behaviours' and 'contributing

factors'. Once this was completed, analysis begin on the data to identify what protective and risk factors influence internet risk taking amongst adolescents.

1. What offline factors contribute to adolescent risk taking online?

2. Are there particular offline factors that relate to certain risks taken online?

3. What are the protective factors that mitigate risk taking online for adolescents?

4. Are there particular offline protective factors that prevent certain risks being taken online?

Study 2: Adolescent perceptions of online risk taking and exposure to sexualised media.

Study one identified the lack of qualitative work gaining adolescents views. Based on the risk factors and behaviours identified in study one, study two explored the perspectives of adolescents on the subjects of internet usage, social media, risk taking, peer influence and sexualised media. In addition to protective factors such as education and parenting. The study examined whether adolescents understood what a risk behaviour is and if they understood the potential dangers of the internet. Furthermore, what type of sexualised media, if any, they were exposed to. This was achieved by interviewing eight adolescents aged between 13 and 16 years of age. Semi structured interviews with prompts and open-ended questions were used and they were analysed using thematic analysis (Braun & Clarke, 2006) to look for themes in the data.

1. How do adolescents perceive online risks?

2. What are adolescents' perceptions of sexual media exposure?

3. How are adolescents being exposed to sexual media?

4. What are the outcomes of risk taking and exposure to sexualised media online?

Study 3 part 1: Adolescent exposure to sexualised media online and the impact of this on offline sexual attitudes and behaviours.

Study two indicated that adolescents are exposed to lots of sexualised material, and they seem desensitised to it as a result. It also indicated that peer influence and formal sex education impacts upon this. Therefore, study three part one examined exposure to sexualised material in adolescents. It examined how factors such as friends, mental health, education, and family relationships effect this relationship and how this can develop into unhealthy sexual attitudes, and behaviours. Finally, it examined what protective factors were in place to prevent adolescents from developing unhealthy sexual attitudes, and behaviours, despite still being exposed to highly sexualised media online. Three hundred and thirty-four participants were recruited from a university in England. Data collection was in the form of online surveys and was analysed using regressions and ANOVAs.

1. Is there a relationship between high social media use and exposure to sexualised material?

2. Is effective education a protective factor against unhealthy sexual behaviours, attitudes, and beliefs?

3. Does high exposure to sexual material influence sexual behaviours, attitudes, and beliefs?

4. Do family relationships and monitoring level affect sexual behaviours, attitudes, and beliefs?

5. Is there a relationship between mental health and exposure to sexual material?

6. Is there a relationship between mental health and unhealthy sexual behaviours?

7. How do friends influence sexual attitudes and behaviour?

Study 3 part 2: Exposure to sexualised media in adolescent and the effect this has on offline sexual behaviours and attitudes in early adulthood.

Using the findings from study three part one and the lack of research into this area, study three part two examined the effects that exposure to sexualised material has on sexual behaviours and attitudes in adulthood. It utilised the survey data from study three part one and examined if exposure to sexualised material in adults effects their sexual attitudes and behaviours. In addition, it examined whether adults have the same experiences as adolescents by comparing the data of both. Finally, it took the risk/protective factors from adolescents and compare these to sexual attitudes and behaviours in adults to identify whether there were any long-term impacts. Data was analysed using regressions and ANOVAS.

1. Does sexualised material exposure during adolescence affect sexual attitudes and behaviours in adulthood?

2. Does sex relationship and internet education in high school reduce the development of unhealthy sexual attitudes and behaviours in adulthood.

3. Does exposure to sexualised material, social media use, unhealthy sexual attitudes and risky sexual behaviours increase in adulthood?

4. Does mental health decline in adulthood?

5. Does peer pressure persist into adulthood?

Chapter 2; A review examining factors that influence internet risk taking in

adolescents.

Introduction

The objective of study one was to examine the factors that influence risk taking behaviour on the internet. Identifying factors contributing to online risk can enable practitioners to better safeguard adolescents from negative experiences arising from risks taken on the internet. Often researchers identify specific areas of risk and concentrate on those, for example gambling and video gaming on the internet (Griffiths & Parke, 2010; Griffiths & Wood, 2000; Potenza, Wareham & Steinberg et al., 2011; Rikkers Lawrence, Hafekost, & Zubrick, 2016) and problematic internet use (Shek & Yu, 2016; Tang, Yu & Du et al., 2014; Throuvala, Griffiths, Rennoldson, & Kuss, 2019b; Zhou et al., 2017). A review that incorporates all the available data has not been conducted. This study will pool together research that has been conducted on adolescent risk taking, and related characteristics and behaviours, in order to provide researchers and practitioners with a more comprehensive understanding of the subject area.

Gender and peer influence in risk taking online.

Adolescence is a critical stage in one's life where substantial physical, emotional, and cognitive change occurs that can impact on behaviour and decision making. These changes prepare young people to become more independent, acquire their own identity, and make their own judgements (Johnson, Blum, & Giedd, 2009; Spear, 2000) though this may increase exposure to risk and the negative consequences of this risk-taking behaviour. According to Spear (2000), the three most robust changes observed during adolescence are increased novelty seeking, increased risk taking, and a desire for peer rather than family interactions. Indeed, during adolescence there is increased parent-child conflict (Steinberg & Morris, 2001) and adolescents begin to put more value on what their peers say rather than their

caregivers, lowering engagement with parental guidance and support. Fardouly, Magson, Johnco, Oar, and Rapee (2018) found less parental control results in more time spent online and more frequent appearance comparisons with peers. Peer influence plays a significant role in risk taking behaviour (Van Hoorn et al., 2017). Adolescents have a desire to fit in with and search for peers that they can create social bonds with. They may also engage in risk behaviours that they believe will raise their social status and reinforce their social relationships (Somerville et al., 2019). Risk taking behaviour is more likely to happen within a group or with substantial group influence rather than when alone (Bougheas et al., 2013). In addition, having positive perceptions of the 'in-group' and negative perceptions of an 'out-group' reinforces the collective beliefs with in-group members (inspiring greater risk-taking behaviour), rather than out-group members (Cruwys et al., 2020). As a result, peer influence plays an important role in understanding risk taking behaviour because it is a contributing factor in risk taking online.

In addition to peer pressure, gender differences are also seen in risk taking behaviour (Botdorf, Rosenbaum, Patrianakos, & Chein. 2017; Lakshmana, Kasi, & Rehmatulla, 2017). For example, boys have been found to take more risks than girls, with boys being more willing to take physical risks such as dangerous sports and activities (Lakshmana et al., 2017). Whereas girls tend to prefer taking risks that provide social rewards, such as standing up for a cause (Botdorf et al., 2017). Andreoni, Di Girolamo, List, Mackevicius, and Samek (2019) found evidence in their study to suggest that adolescent girls have a significantly greater risk aversion compared to adolescent boys. Furthermore, the types of risks taken appear to differ between genders (Byrnes, Miller, & Schafer, 1999). For example, gambling is more frequent and severe in males (Weidberg, González-Roz, Fernández-Hermida et al., 2018), females are more sensitive to pressure from peers to fit in and impress others, and males are more sensitive to gender role stereotypes (Dir, Bell, Adams, & Hulvershorn, 2017).

For example, binge drinking is perceived as masculine, rewarding, and more socially acceptable for males, whereas females are judged negatively (Dir et al., 2017). In addition, females are more responsive to perceived family support as a mitigator for substance abuse and sexual risk taking, compared to males (Nelson, Carey, Scott-Sheldon, 2017). The current review will bring together the literature on peer influence and gender differences to examine the impact on risk taking online and whether the impact is unique to certain risk behaviours, for example sexting.

Sexual risk taking online.

The launch of social media into mainstream society was very popular, especially for adolescents, and this tends to be the preferred method of communication within this age group (Prinstein, Nesi, & Telzer, 2020; Throuvala, Griffiths, Rennoldson, & Kuss, 2019a; Wood & Wheatcroft, 2020). Adolescents use the internet to explore their identities and pilot those identities on their social media sites where they receive instant feedback (Throuvala et al., 2019a). The types of feedback they receive shapes the identities that they display online and the behaviours that they engage in, to ensure peer acceptance (Ward, 2017) which can result in greater risk-taking behaviour online (Eleuteri, Saladino, & Verrastro, 2017). For example, sending self-produced sexually explicit images (sexting) is a common behaviour during adolescence (Van Ouytsel, Walrave, M., & Ponnet, 2019). Pressure to send images combined with the desire for peer acceptance and the perception that one's peers are engaging in this type of behaviour, can increase the likelihood of taking part (Van Ouytsel, Ponnet, Walrave, & d'Haenens, 2017; Walrave, Heirman, & Hallam, 2014).

In addition, there are gender differences seen in sexting behaviours. Females receive the most pressure to sext, particularly from males and they receive negative feedback whether they engage in sexting or not, whereas males seem unaffected by any criticism received (Lippman, & Campbell, 2014). Moreover, adolescents first begin engaging in sexting before

engaging in sexual activity as a way of experimenting with their sexuality (Henderson, 2011). Generally, older adolescents send sexts to people they are romantically or sexually involved with, whereas younger adolescents tend to sext more often, and adolescents who lack romantic or sexual experience tend to sext strangers (Beckmeyer, Herbenick, Dodge, Reece, & Fortenberry, 2019). In addition, significantly more lesbian, gay, and bisexual adolescents engage in sexting behaviours (Lee, Crofts, McGovern, & Milivojevic, 2015). Nevertheless, most adolescents often view sexting as a normal part of sexual development and to gain positive feedback to boost self-esteem (Yeung, Horyniak, Vella, Hellard, & Lim, 2014). These findings demonstrate the adolescent desire to gain peer acceptance and to explore their sexual identity. The studies discussed are vital in understanding elements of risk predictors (i.e., peer pressure) and risk behaviour (i.e., sexting), however they do not examine a variety of risk predictors which can aid in determining which predictors are associated with certain risk behaviours. It is crucial that a better understanding of what motivates adolescents to take risks online is gained because risk taking can have negative and harmful outcomes.

Vulnerabilities of internet use

Grooming is a significant concern in relation to the internet and has increased year on year in line with adolescent's desire to use the internet (Whittle et al., 2013a). Becoming a victim of grooming is associated with engaging in risk taking behaviour online, high levels of internet use, and lack of parental involvement relating to internet use (Whittle Hamilton-Giachritsis, Beech, & Collings, 2013b). Furthermore, inconsistencies in education across schools have impacted on the success of programmes intended to reduce risk taking online. For example, the Department for Education in the UK has published guidance for schools on how to incorporate internet safety education into their curriculum (see, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021914/KCSIE_2021_September_guidance.pdf) however, this remains guidance that

may not be implemented. In addition, when guidance is implemented, it does not seem to be effective in reducing risk taking. Therefore, education could be enhanced by understanding adolescents' perspectives and implementing this into education. In some cultures, it is unacceptable to talk to caregivers about sex and relationships, and adolescents are not taught about this topic which motivates them to go online to gain this information (Gesser-Edelsburg, & Arabia, 2018). Similarly, adolescents who are LGBT+ are increasingly using the internet for sex, gender, and relationship information (Simon, & Daneback, 2013; Kuper & Mustanski, 2014), especially if they are not 'out' to their friends or families (Magee, Bigelow, DeHaan, & Mustanski, 2012).

Religious schools may not teach this type of education to their pupils because it is contradictory to their beliefs and in British state schools, caregivers have the opportunity to 'opt out' of their child attending the lesson. In some circumstances, teachers may be actively prevented from providing such material. In Florida for example, teachers were banned from teaching or even having discussions on sexual orientation or gender identity as part of the 'Parental Rights in Education' bill (see https://www.flsenate.gov/Session/Bill/2022/1557). Therefore, adolescents who gain this information online are generally less informed of correct representations about sex and relationships (Evers, Albury, Byron, & Crawford, 2013), and often stumble across explicit material unintentionally (Ybarra, & Mitchell, 2005).

If adolescents aren't effectively educated on sex and relationships and how to use the internet safely then this can impact on what they engage with online. Greater time spent online increases exposure to negative content, including pro-self-harm and pro-suicide information, which can result in increased vulnerability to engage in online risk behaviour (Memon, Sharma, Mohite, & Jain, 2018), especially if they are not educated effectively. Cipolletta, Malighetti, Cenedese, and Spoto (2020) argue that self-acceptance and social desirability increases after receiving a 'like' on social media compared to no 'likes' which

increases social isolation. In their study, Tian et al., (2020) found that young people with low self-esteem were much more susceptible to peer pressure compared to those with high self-esteem. Therefore, to continue gaining self-acceptance and social desirability, adolescents are more likely to share personal information on their social media accounts (Allen, Ryan, Gray, McInerney, & Waters 2014), have public profiles (Reid & Weigle, 2014) and talk to strangers (Bayraktar et al., 2016). Displaying these risk behaviours can increase vulnerability to sexual victimisation (Mitchell, Finkelhor, & Wolak, 2007).

Rationale for study one

Existing literature discussed in this chapter so far has shown that adolescents may take more risks online than they do offline for a variety of reasons. Online interaction serves as a fast way to explore identity, gain acceptance, and to make friends. In addition, there is often limited or no parental control (Lakshmana et al., 2017), mainly because caregivers have limited internet skills and/or they are not aware of what their children are doing online (O'Connell, 2003). Adolescents can 'get away' (i.e., remain undetected by caregivers) with more risky behaviour online than they can offline, creating less constraints. Therefore, opening up an arena with few restrictions which can lead to harmful consequences. What is evident from the literature is that peer pressure, acceptance and the lessening of parental monitoring contribute to risk taking carried out by adolescents online. However, more research needs to be conducted on other factors that contribute to risk taking behaviours online. In addition, it is not clear what factors can reduce risk taking online.

The analysis in this chapter promoted an understanding of the causes of adolescent online risk taking, analysed whether certain factors are specific to particular risks taken on the internet, and it examined whether the risk behaviours and risk predictors can be categorised for ease of detection and intervention. The findings from this study can help inform harm reduction and early intervention programmes to allow practitioners to identify

potential internet risk taking behaviours amongst adolescents, or characteristics and factors related to these risk-taking behaviours. This will be of value because practitioners can intervene early rather than intervening when the adolescents are already having negative experiences as a result of engaging in risk-taking behaviour.

Method

A scoping exercise was carried out to gain an understanding of the research available. Following this, the researcher was able to develop the inclusion and exclusion criteria. A selection of databases were searched to source peer reviewed journals between 2005 and 2020. The earliest year (2005) was selected because this was when the most popular social media site (Facebook) with over 2.4 billion users worldwide (Clement, 2020) became widely used. The inclusion criteria were participants aged between 13-18, papers containing primary data and papers that examined factors that influence risk taking online. The databases used were Web of Science, Discover, Science Direct and Google Scholar. The initial search was *online risk*, and this produced 247,859 results. Subsequent searches based on Boolean phrases were *online risk AND adolescents OR teenagers OR young adults OR young people*. These search terms were entered into the databases with the year range from 2005-2020, papers written in English, and papers that were peer reviewed. This produced 326 results. The abstract of each paper was read initially to remove any papers that did not fit the criteria, were duplicates, or were not written in English. Following this, all papers were read to make sure that they were relevant to the study, any papers that were not relevant were removed. Exclusion criteria for the remaining papers where, did not contain primary data, were review studies, could not access full paper, could not differentiate between online and offline risk, included offline risk, assessed vulnerabilities (e.g., experiencing cyberbullying) and did not directly assess contributing factors to risk taking online. This resulted in 24 papers being selected to read in detail. One paper was removed because it focussed on survivors of abuse

and did not focus on risk factors or risk behaviours. Another two papers were removed

because they focussed on the prevalence of cyberbullying victimisation and did not focus on

risk taking. All study characteristics of each paper were put into a table (see table 2.1). This

resulted in a final sample of 21 papers (4 qualitative and 17 quantitative). The researcher

inputted all papers into a literature review table (see table 2.2).

Figure 2.1 – *Prisma diagram identifying the screening process for papers included in this study.*
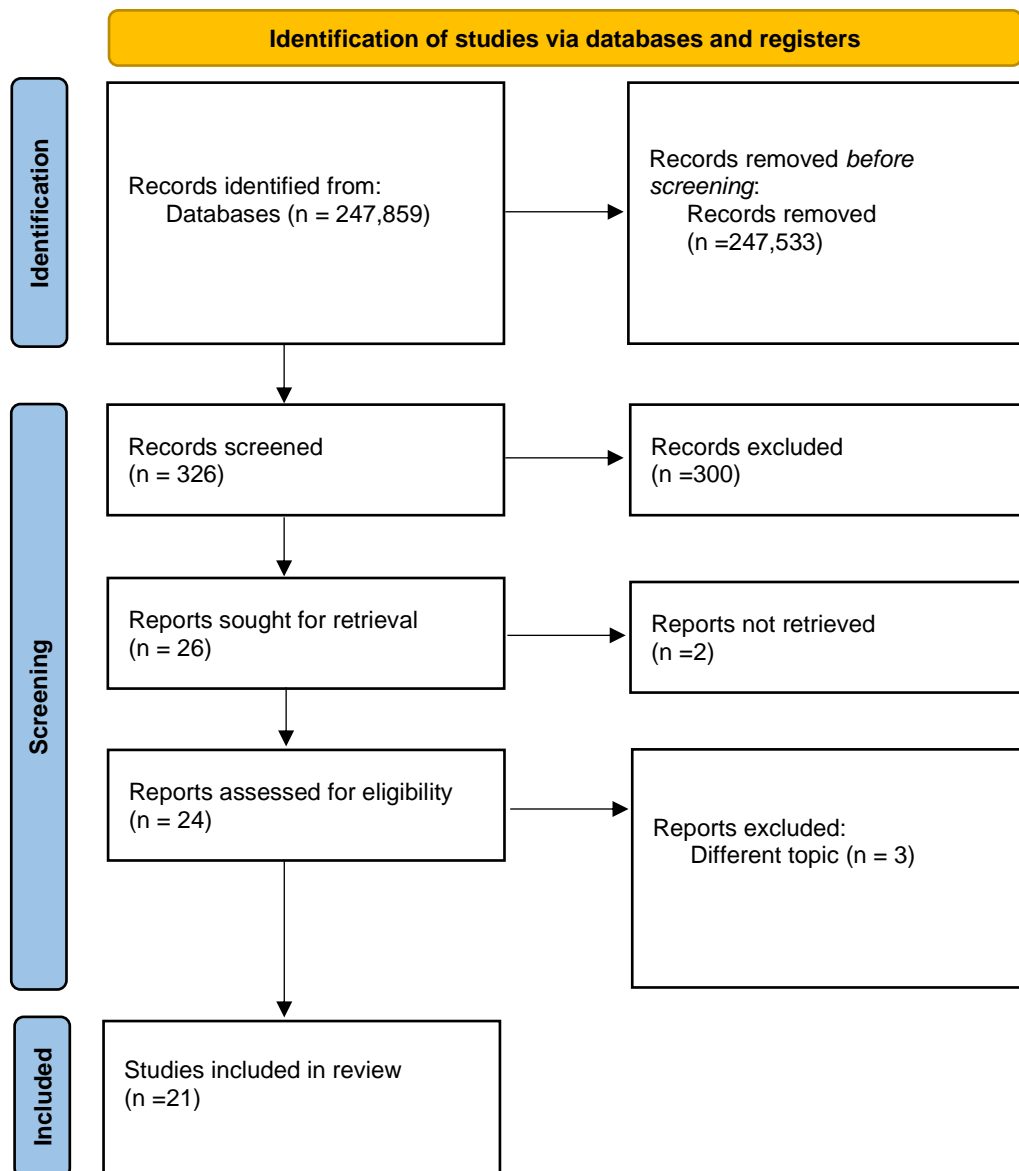
Table 2.1 – Study characteristics for papers included for analysis.

Study	Year and country	General study focus	Source of funding for study
White, Gummerum & Hanoch, (2015).	England	Examining developmental differences in adolescent and young adult risk taking online.	Undisclosed
Rice, Winetrobe, Holloway, Montoya, Plant & Kordic, (2015).	Los Angeles 2011	Assessing the relationships between specific sexual risk behaviours and frequency of internet use, internet access points, and demographics.	Undisclosed
Buhi, Klinkenberger, McFarlene, Kachur, Daley, Baldwin & Rietmiejer, (2013).	Florida 2010-2011	Assessing the associations between meeting sex partners online and different sexual risk behaviours and outcomes among adolescents.	An American Sexually Transmitted Diseases Association Developmental Award.
Lim, Agius, Carrotte, Vella & Hellard, (2017).	Australia 2015	Examining the prevalence of pornography viewing and factors associated with viewing frequency and age at first viewing.	Undisclosed
Livingstone & Helsper, (2010).	United Kingdom 2004	Examining the role of selected measures of internet literacy in relation to teenagers' online experiences.	Undisclosed
Nesi & Prinstein, (2019).	United States 2015-2016	Investigating longitudinal implications of digital status seeking for adolescents' engagement in health-risk behaviours.	Partially by funding from the National Institutes of Health and the National Science Foundation Graduate Research
Sherman, Payton, Hernandez, Greenfield & Dapretto, (2016).	Los Angeles	Measured adolescents' behavioural and neural responses to likes on Instagram.	The National Center for Research Resources, the Office of the Director of the National Institutes of Health, National Institute on Drug Abuse National Research Service Award, Brain Mapping Medical Research Organization, Brain Mapping Support Foundation, Pierson Love lace Foundation, The Ahmanson Foundation, Capital Group Companies Charitable Foundation, William M. and Linda R. Dietel Philanthropic Fund, and Northstar Fund.
Vanderhoven, Schellens, Valcke & Raaes, (2014).	Unknown	Observational study of Facebook-profiles of adolescents to examine what kind of information they post, to what extent they protect this information and how much risky information they post.	The Strategic Basic Research (SBO) Programme of the Flemish Agency for Innovation through Science and Technology (IWT) in the context of the SPION project
Youn, (2005)	Midwestern, Midsized Cities. 2002	Examining risk and benefit appraisals on willingness to provide information to web sites and effect on risk-lowering behaviours.	Partially funded by graduate research grant from the University of North Dakota.
Baumgartner, Valkenburg & Peter, (2010).	The Netherlands 2008	Investigating causal relationships between risky sexual behaviour online and adolescent perceptions.	The Netherlands Organisation for Scientific Research.
Rodriguez-de-Dios, Van Oosten & Igartua, (2018)	Spain 2016	Examine how adolescent digital skills relate to online opportunities and online risk behaviours. Examine the influence of parental mediation on digital skills.	Government of Castile ad Leon (Spain) and the European social fund.
Noll, Shenk, Barnes & Putnam, (2009).	United States	Examine risk factors for Internet initiated victimization of female adolescents.	Part funded by National Institutes of Health grant.
Popovac & Hadlington, (2020).	Cape Town	Exploring developmental and social factors to predict online risk behaviour.	Undisclosed

Seycikova, Serek, Machackova & Smahel, (2013).	Czech Republic 2010	This study focused on adolescents in the Czech Republic, a country with relatively high rates of exposure to sexual material (ESM).	EC Safer Internet Plus Programme. the Czech Science Foundation, the Faculty of Social Studies, Masaryk University, VITOVIN project, the European Social Fund, and the state budget of Czech Republic.
Notten & Nikken, (2016).	25 Countries 2010-2013	Gender differences in the relationship between risky online behaviour and social context, and the prevalence of Internet use across 25 countries.	No funding
Marret & Choo, (2018).	Malaysia	Contact and privacy risks encountered by adolescents with online access and factors associated with face-to-face meetings with online acquaintances and the prevalence of victimization.	The University of Malaya
Gomez, Harris, Barreiro, Isorna & Rial, (2017).	Spain 2014	Examine factors associated with online risky experiences.	The Galician Ombudsman.
Buren & Lunde, (2018).	Sweden	Examine adolescents sexting experiences, the quality of sexting experiences, individual and psychosocial associated factors.	The Swedish research council for health, working life and welfare.
Wood & Wheatcroft (2020)	United Kingdom 2018	Explore young adults' perceptions of internet risk and the grooming concept.	No funding
Monks, H., Barnes, A., Cross, D., & McKee, H. (2019)	Australia 2014	Explore factors affecting adolescents' image-sharing behaviours, in the context of peer relationships and norms	WA Health Promotion Foundation, the Telethon New Children's Hospital Fund, and the Department of Education (Western Australia). Donna Cross' NHMRC Research Fellowship
Radovic, A., Gmelin, T., Stein, B. D., & Miller, E. (2017).	USA 2013-2014	Qualitative study examining descriptions of social media use among depressed adolescents and how this may influence and be influenced by psychological distress.	The Agency for Healthcare Research and Quality, T32 training grant from the Agency for Healthcare Research and Quality

Table 2.2 – Data extraction for studies included in the analysis.

Study	Sample	Outcomes	Predictors	Methodology	Primary Results
Adolescents' and young adults' online risk taking: the role of gist and verbatim representations (White, Gummerum, & Hanoch, 2015).	122 participants aged 13-17 172 participants aged 18-24	Disclosing personal information online. Making friends online with strangers. Risk perception.	Gist or verbatim representations of online risk taking in adolescence and young adulthood.	Surveys containing; Categorical Risk measure, the Gist Principles measure, and Global Risk Perception measure. Analysed using PCA and regressions.	Adolescents take more online risks than young adults and have a higher number of online friends. Adolescents that use gist representations are less likely to engage in online risk compared to verbatim representations. Adolescents that take more risks in the past show higher intentions to take risks in the future, whereas young adults are more likely to show the opposite behaviour.
Cell phone internet access, online sexual solicitation, partner seeking, and sexual risk behaviour among adolescents. (Rice, Winetrobe, Holloway, Plant., & Kordic, 2015).	1820 Participants aged 14-18	Sexual risk behaviours; Online sexual solicitation, Seeking partners online, Sex with internet met partners, Condom use, Online risk taking.	Race, sexual orientation, frequency of internet use, internet access points.	Youth Risk Behaviour Survey (YRBS). Analysed with regressions	Being approached online for sex was associated with African American, bisexual, online partner seeking. Looking online for a sex partner was associated with male, GLQ, and being solicited for sex online. Risky sexual behaviours were associated with being older, male, bisexual and GLQ.

Evaluating the Internet as a sexually transmitted disease risk environment for teens: findings from the communication, health, and teens study. (Buhi, Klinkenberger, McFarlane, Kachur, Daley, Baldwin, Rietmeijer, 2013).	273 participants aged 13 & 19	Meeting someone online. Having sex with a person met online. Amount of sex partners. Alcohol consumption. STD's. Becoming pregnant or impregnating someone.	Age, gender, race, education level, sexual orientation, living arrangements, relationship status.	Regressions were used to examine the sociodemographic correlates of ever having an online sex partner.	Multi-racial males, not going to college, LGBT, were more likely to meet a sex partner online. Having an online sex partner increased the likelihood of having more vaginal sex partners, early first vaginal sex, STI's, pregnancy and alcohol use during sex.
Young Australians' use of pornography and associations with sexual risk behaviours. (Lim, Agius, Carrotte, Vella, & Hellard, 2017).	941 participants aged 15-29	Sexual contact Sexual intercourse Viewing pornography.	Early sexual experience, anal sex, sexual risk, mental health, living situation, education, sexual identity.	Cross sectional online survey. Data analysis included; contingency table analysis, logistic regression, cox proportional hazards regression.	Males viewed more pornography than females. LGBTQ+, sexually active, anal sex, secondary education, mental health problems were more likely to watch pornography. Younger age at first pornography viewing was higher for male, younger participants, lived with a partner, had not completed high school, had a younger age at first sexual contact, and mental health problems.
Balancing opportunities and risks in teenagers' use of the internet: the role of online skills and internet self-efficacy. (Livingstone, & Helsper, 2010).	789 participants aged 12-17	Online opportunities, Online risk.	Age Gender SES Internet access Internet use Internet literacy	A national survey was conducted via an in-home, face-to-face interview. Fieldwork was carried out using computer-assisted personal interviewing. Path analysis was used.	Older participants have better quality of access, use the internet for longer and have better online skills. Boys encounter more online risks. Online opportunities motivate adolescents to do more on the internet.
In search of likes: longitudinal associations between adolescents' digital status seeking and health-risk behaviours. (Nesi, & Prinstein, 2019).	716 participants aged 15-18	Digital status seeking. Importance of online status. Online status seeking strategy. Substance use. Number of sex partners.	Peer status. SES status. Frequency of social media use. Peer importance.	Longitudinal study 2 time points in 1year. Standard sociometric measure of peer-perceived popularity, digital status seeking and peer status. U.S. Census tract data to measure SES. self-reported social media use, peer importance, and risky behaviour engagement. Youth Risk Behaviour Surveillance System Multiple group path analysis was used.	Girls and white and high SES participants were more likely to be nominated as digital status seekers compared to boys. White students showed higher digital status seeking. Adolescents who were perceived by their peers as digital status seekers use social media more often. Digital status seeking was associated with substance use and number of sexual partners.
Depressed adolescents' positive and negative use of social media. (Radovic, Gmelin, Stein, B, & Miller, 2017).	23 participants aged 13-20.	**Positive internet use** **Negative internet use**	Depression Psychological distress	Convenient sampling strategy was used to recruit participants. Semi structured interviews were conducted over the telephone or in person. The data was analysed qualitatively using a content analysis approach.	Themes were; Oversharing, stressed posting, encountering triggering posts. Depressed participants used social media more often and had more online friends who were strangers. Experiencing negative outcomes was the same for depressed and non-depressed adolescents.
The power of the like in adolescence: effects of peer influence on neural and behavioural responses to social media. (Sherman, Payton, Hernandez, Greenfield, & Dapretto, 2016).	32 participants aged 13-18.	Image sharing. Risk taking online. Perceived popularity. Popularity seeking behaviours.	Amount of likes per image - Neutral images Risky images Participants own images.	Binominal tests were used to assess participants conformity to peers' responses. Participants were put into an fMRI scanner and shown three categories of images.	Participants matched their peers across all image categories, but more for their own images. Neutral photos with many likes showed higher activity in the visual cortex. Risky photos with many likes showed higher activity in the left frontal cortex. Own photos with many likes showed higher activity in areas associated with social cognition, reward learning and motivation.

How safe do teenagers behave on Facebook? An observational study. (Vanderhoven, E., Schellens, Valcke, & Raes, 2014).	1050 participants aged 13-18	What kind of information teenagers post on their profile. To what extent they protect this information using privacy-settings. How much risky information they have on their profile.	How do teenagers behave on Facebook? What types of information do they post on Facebook? What type of information do they share on a private account, friends of friends account, and public account.	Facebook account content was coded. Amount of risky information was coded. ANOVA was used to study differences in age, education, and gender. Ordinal regression was used for the effect of age, education, and gender	Younger participants play more games and post more information about sports older participants, post more pictures, videos, and text posts. Girls interact more with pictures and videos. Boys play more games and regularly share their mobile number. Relationship status and date of birth shared more frequently by younger participants. Participants showed risky pictures to friends-of-friends rather than friends. Privacy settings are used less for videos and interest. Older participants and girls post more risky information on their profile.
Teenagers' perceptions of online privacy and coping behaviours: A risk–benefit appraisal approach. (Youn, 2005).	326 participants aged 14-18	Susceptibility to perceived risk. Severity of perceived risk. Perceived benefits offered in information exchange. Willingness to provide personal information. Coping behaviours to handle risk.	Perceived risk Psychological risk Social risk Financial risk Time risk Physical risk	Risk was measured by; Concern level of perceived risk. Seriousness level of perceived risk. Analysed using regressions	Participants with greater risk perception of information disclosure were less willing to provide information. Participants provided more information if the outcome was perceived as positive. Participants showed risk-reducing strategies for sharing personal information such as falsifying information, providing incomplete information, or going to alternative web sites that do not ask for personal information
Assessing causality in the relationship between adolescents' risky sexual online behaviour and their perceptions of this behaviour. (Baumgartner, Valkenburg, & Peter, 2010).	1445 participants aged 12-17.	Search to talk about sex. Search to have sex. Send nude photo/video. Disclose information.	To investigate the relationship between adolescents' risky sexual behaviour on the internet and their perceptions of this behaviour.	Two wave online panel study longitudinal study. Autoregressive cross-lagged structural equation models. Online surveys questionnaires were completed 6 months apart.	Perceived peer involvement, vulnerability, and risks predicted risky sexual behaviour online 6 months later. Perceived peer involvement determined sexual behaviour online.
A study of the relationship between parental mediation and adolescents' digital skills, online risks, and online opportunities. (Rodríguez-de-Dios, van Oosten, & Igartua, 2018).	1446 participants aged 12-18	Online risk behaviours Positive ICT attitude Technology anxiety.	Parental mediation, Digital literacy Online opportunity.	Self-report questionnaire with a 1-5 Likert scale analysed using exploratory factor analysis.	Digital literacy is positively related to online opportunities and online risk. Restrictive parental mediation is negatively related to digital literacy. Restrictive mediation is negatively related to online risk, and opportunities. Digital literacy mediates the relationship between restrictive parental mediation and online risk and opportunities.
Childhood abuse, avatar choices, and other risk factors associated with Internet-initiated victimization of adolescent girls. Noll, Shenk, Barnes, & Putnam, 2009).	Girls aged 14-17. 104 abused and 69 non abused.	Substance abuse. High risk sexual attitudes. Online self-preservation.	Internet usage. Maternal and paternal caregiver presence. Involvement with high-risk peers	Adolescents completed avatar creation task and computerized questionnaires via multimedia computer assessment. Path analysis was used to analyse the data.	Abused participants were more likely to experience online sexual advances and to have met someone offline. Abuse status was related to online sexual advances and offline, in-person encounters. Caregiver was a protective factor. Choosing a provocative avatar, being preoccupied with sex, and substance use were risk factors for online sexual advances. Associating with high-risk peers was a risk factor for offline, in-person encounters.
Exploring the role of egocentrism and fear of missing out on online risk behaviours among adolescents in South Africa. Popovac, & Hadlington, 2020).	1184 adolescents aged 12–18.	Fear of missing out. Online risk-taking behaviour. Egocentrism. Personal uniqueness. Omnipotence. Invulnerability. Interpersonal fantasies. Visions of self.	Age Gender	The new imaginary audience scale; The new personal fable scale; FoMO scale; Child and adolescent online security (CHAOS) scale. Principal component analysis was used to analyse the data.	Females engaged in fewer risk behaviours than males. Males had higher invulnerability scores, omnipotence, and personal uniqueness. Females reported higher Imaginary Audience ideation and FoMO.

Extent matters: Exposure to sexual material among Czech adolescents. (Ševčíková, Šerek, Macháčková, & Šmahel, 2013).	495 participants aged 11-15	Online risk Emotional problems Sensation seeking.	Exposure to sexual material. SES Excessive internet usage. Frequency of internet use.	The EU Kids Online Survey was used. Children and parents were interviewed and filled out questionnaires. Three multinominal logistic regression models were used.	Higher age and greater excessive Internet use predicted greater odds of being sporadically exposed. Being older, male, sensation seeking, and higher internet use predicted more frequent exposed. Higher age, male gender, greater sensation seeking, and greater excessive Internet use predicted greater odds of being frequently exposed. Only older participants were more likely to be exposed offline and online.
Boys and girls taking risks online: A gendered perspective on social context and adolescents' risky online behaviour. (Notten, & Nikken, 2016).	8554 participants aged 14-16	Risky online behaviour. Media use characteristics. Personality characteristics.	Parental active and restrictive mediation and co-use. Country level characteristics. Demographics. Family structure.	EU Kids Online data set was used with adolescents from 25 countries. Multilevel modelling was applied for analysis.	Male participants, growing up in a single-parent household and lacking parental co-use increases the chance of online risk behaviour. Adolescents, especially males, are less likely to engage in risk taking online in societies where Internet use is widespread.
Victimization after meeting with online acquaintances: A cross-sectional survey of adolescents in Malaysia. (Marret, & Choo, 2018).	3349 participants aged 12-18.	Risk exposure Psychosocial characteristics.	Demographics. Environmental factors. ICT access and patterns of use.	Participants completed an anonymous self-administered paper questionnaire. Univariate logistic regression and multiple logistic regression was used for analysis.	Over half of participants had been asked to provide personal information by Internet or mobile acquaintances. Just under a third made complete disclosures. 8% had received requests to send a picture of themselves naked or semi-naked, of which, 25.5% complied. Half of had been invited to a face-to-face meeting, of which half complied. More than half who had gone to an offline meeting went alone. Male, Malay ethnicity, using the Internet at an Internet café, viewing pornography on the Internet, the absence of parental restrictions on websites and chat rooms, not being forbidden to meet strangers off the Internet, and disclosure of personal information were associated with offline meetings.
Profiles of internet use and parental involvement, and rates of online risks and problematic Internet use among Spanish adolescents. (Gómez, Harris, Barreiro, Isorna, & Rial, 2017).	39993 participants aged 12-17	Contacting strangers through the internet. Visiting erotic websites. Meeting up with strangers that were met on the internet.	Level of internet use Parental control. Parental conflict. Age. Gender.	An online survey measuring problematic internet use and the last 12-months experience of online risks. Exploratory cluster analysis and ANOVAs were used to analyse the data.	The heaviest internet user group had the highest rate of online risk Problematic internet use compared to others.
Sexting among adolescents: A nuanced and gendered online challenge for young people. (Burén, & Lunde, 2018).	1653 participants aged 12-16	Sexting Perceived experience of sending text. Pressured to send text.	Age Gender Living situation Parental job status Family income Life satisfaction Family and friend's support Pubertal timing	Online questionnaires were completed by participants in schools. Bivariate two-tailed chi-squared texts and a multiple logistic regression was used to analyse the data.	Sexting experiences were more common for older adolescents. Boys were more likely to ask for texts and have positive experiences of sending texts. Girls were more likely to be asked for text and feel pressured to send tests. For boys, online risk, higher friend, and support was related to an increased likelihood of sending texts. Family support decreased likelihood of sending texts to friends and strangers. Older boys, earlier pubertal timing, higher family, and life satisfaction increased the likelihood of sending texts to romantic partners or friends/peers. For girls risk taking was the strongest predictor of sexting. Increased online risk taking being older and earlier pubertal timing was related to an increased likelihood of sending texts to anyone.
Young adult perceptions of internet communications and the grooming concept. (Wood, & Wheatcroft, 2020).	10 participants aged 18-23.	Internet communications	Perception of risk.	Semi structures interviews with a questionnaire developed by the researcher. Thematic analysis was used.	Emergent themes were (a) grooming as a concept, (b) virtual lives, and (c) perception of risk. The findings indicate limited understanding of the term grooming. Risks being taken online were not always perceived as risky.

A qualitative exploration of electronic image sharing among young people: Navigating the issues of conformity, trust, intention, and reputation. (Monks, Barnes, Cross, & McKee, 2019)	68 participants aged 13-14	Image sharing behaviours	Peer relationships Peer norms	Focus groups analysed using thematic analysis	Emergent themes where 1) Conformity, 2) Trust, 3) Intention, and 4) Reputation. Participants were more likely to engage in the behaviour if they believed their peers were.

Data extraction

Data extraction began by creating data extraction forms for each of the papers and methodological comment was made. All papers focussed on factors that related to internet risk taking in adolescents and research was conducted in 42 countries in total. There were seven studies conducted in the USA (of which two specified Los Angeles, one specified Florida and one specified Midwestern cities, the other three studies specified USA only), four studies were conducted in the UK, and three studies were conducted in Spain. Two studies each were conducted in Australia, the Netherlands, Sweden, and the Czech Republic. South Africa, Malaysia, Sweden, Austria, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Norway, Poland, Portugal, Romania, Slovenia, and Turkey were represented in one study each. However, one study surveyed adolescents in 25 countries (hence the greater number of countries compared to papers).

Altogether there were 66,749 participants who took part in the 21 studies, 32,665 identified as male, 33,781 identified as female, nine identified as transgender and one study did not report the gender of their participants, resulting in nine participants of unknown gender. The age range of participants across all studies was between 11 and 29 years old, with 13-18 years being the most studied age bracket. Recruitment methods and location of research included ten schools, two teen health clinics, a further education setting, a university, participant's home, a mental health facility, Facebook observations, online surveys, EU data base set, social media survey, a laboratory, an existing online panel, child protection services, phone calls and a youth centre.

Data collection methods included, 12 questionnaires or surveys developed by researchers, two EU kids online surveys, a national survey, standardised measures (Problematic Internet Use Scale, Child and Adolescent Online Security Scale, FOMO Scale, The New Personal Fable Scale, The New Imaginary Audio Scale, Multi-media Computer

Assessment, Avatar Creation Task, Seriousness Level of Perceived Risk Measure, Concern Level of Perceived Risk Measure, Sociometric Nomination Procedure, Protection Motivation Scale, Digital Literacy Scale, Image Sharing Vignettes, Categorical Risk Measure, Gist Principles Measure, Global Risk Perception Measure, Youth Risk Behaviour Scale, Online Entertainment/Escape Scale, Online Information Seeking Scale, Mother Trust Scale, Inventory of Parent/Peer Attachment, Father Trust Scale, School Climate Scale), button press E-Prime Data, and, observational coding of social media.

Most papers used online surveys for data collection, and this was adopted in eleven papers. Paper questionnaires were adopted five times, semi-structured interviews were adopted three times, structured interviews and computer assisted personal interviewing were adopted two times, and each of the following was used once; FMRI scanning, focus groups, observation of social media accounts, and STD results. Regressions were the most popular method of analysis used, with nine studies taking this approach. This was followed by three path analyses, two thematic analyses, and two principal component analyses. Other methods of analysis used were, content analysis, binominal tests, ANOVA's, factor analysis, multilevel modelling, and bivariate analysis.

Results

Across all papers 35 variations of characteristics of online risk (factors) and 18 variations of behaviours of online risk (outcomes) were explored. See table 2.3 and 2.4 below. The most commonly studied behaviour was 'general risk taking online (not specified)' (nine papers) followed by 'explicit image or video sharing' (five papers) and the most commonly studied factor was gender (six papers) followed by age (five papers). Any behaviours or characteristics that were not related to online risk were not included for analysis (e.g., offline risk taking). Once the behaviours and characteristics had been gathered, the researcher grouped these together to create simpler categories of risk behaviours and

contributing factors. This was done by using a meta-ethnographic approach (see; Sattar, Lawton, Panagioti & Johnson, 2021). Studies were examined to identify common and recurring themes and these themes were grouped into categories of similar nature and then terminology was used which describes the relevant concepts. For risk behaviours the categories were, *information sharing and privacy settings, exposure to sexualised media (ESM)*, *engaging with and arranging to meet strangers first met online*, and, *interpersonal*. For the contributing factors the categories were, *internal factors, external factors, demographic factors*, and *internet factors*.

Table 2.3 – Risk behaviours and outcomes assigned to *information sharing and privacy settings, exposure to sensitive material and sexting, engaging with and arranging to meet strangers first met online* and *interpersonal.*

Information sharing and privacy settings	Exposure to sensitive material	Engaging with and arranging to meet strangers first met online	Interpersonal
Sharing personal information	Sexual risk behaviours	Making with friends with strangers online	Digital status seeking
Sharing risky behaviours	Online sexual solicitation	Arranging to meet strangers first met online	Making self-degenerating comparisons with others
Types of information shared on private accounts	Viewing pornography		
	Explicit image/video sharing	Sex with internet met partners	Perceived popularity
Types of information shared on public accounts	Explicit conversations		Popularity seeking behaviours
	High risk sexual attitudes		

Table 2.4 –Studies assigned to each theme for analysis

Themes	Studies

Information sharing and privacy settings	Popovac & Hadlington (2020); Marret & Choo (2018); White, Gummerum & Hanoch (2015); Vanderhoven, Schellens, Valcke & Raes (2014); Yuon (2005); Livingstone & Helsper (2010); Radovic, Gmelin, Stein & Miller (2017).
Exposure to sensitive material	Lim, Agius, Carrotte, Vella & Hellard (2017); Buren & Lunde (2018); Gomez, Harris, Barreiro, Isorna & Rial (2017); Marret & Choo (2018); Popovac & Hadlington (2020); Sherman, Payton, Hernandez, Greenfield & Dapretto (2016); Ševcˇíková, Šerek, Macháčková & Šmahel (2013); Monks, Barnes, Cross & McKee (2019); Noll, Shenk, Barnes & Putnam (2009); Rice, Winetrobe, Holloway, Montoya, Plant & Kordic (2015); Baumgartner, Valkenburg & Peter (2010a); Buhi, Klinkenberger & McFarlene, et al. (2013).
Engaging with and arranging to meet strangers first met online	White, Gummerum & Hanoch (2015); Rice, Winetrobe, Holloway, Montoya, Plant & Kordic (2015); Popovac & Hadlington (2020); Wood & Wheatcroft (2020); Noll, Shenk, Barnes & Putnam (2009); Radovic, Gmelin, Stein & Miller (2017); Buhi, Klinkenberger & McFarlene, et al. (2013); Marret & Choo (2018); Gomez, Harris, Barreiro, Isorna & Rial (2017).
Interpersonal	Sherman, Payton, Hernandez, Greenfield & Dapretto (2016); Popovac & Hadlington (2020); Nesi & Prinstein (2019); Radovic, Gmelin, Stein & Miller (2017).

Table 2.5 – Characteristics and contributing factors assigned to *internal, external, demographic* and *internet.*

Internal	External	Demographic	Internet
Reward feeling	Alcohol consumption	Gender	Frequency of internet use
Peer pressure		Sexual orientation	
	Living arrangements		Internet access points
Risk perception		Race	
	Relationship status.		
Mental health		Age	Online opportunities
	Early sexual experience	Education level	Years of access to the internet
Peer importance/ status			
	Substance use	SES	
Parental mediation			Internet literacy
	Involvement with high-risk peers	Parental job status	
Care giver presence			Frequency of social media use
		Family income	
Egocentrism			

Life satisfaction	Environmental factors	Social connections
Abuse	Family and friend's support	Amount of likes on social media
	Pubertal timing	

Information sharing and privacy settings.

Four behaviours were placed in this category, these were, *sharing personal information, sharing risky behaviours, types of information shared on private accounts,* and *types of information shared on public accounts.* This category was included in seven papers and was a common behaviour amongst adolescents who admitted to vising websites without thinking how safe it is and sharing their location on social media (Popovac & Hadlington, 2020). Adolescents reported being asked for personal information by internet acquaintances and half of these stated that they gave complete disclosures (Marret & Choo, 2018). In their study, White, Gummerum and Hanoch (2015) found that adolescents were significantly more likely to share personal information than young adults, which is understandable due to levels of maturity, naivety, and brain development at that age. Furthermore, adolescents tend to post a significant amount of risky information online that is not always restricted to private settings (Vanderhoven, Schellens, Valcke, & Raes, 2014) and females seem to post riskier information than males (for example, nude or semi-nude images).

Females are more suspicious than males in relation to information sharing and the perceived risks of this and tend to ask others for advice (Yuon, 2005), but still feel pressured to share it anyway. Females seem more inclined to post risky information if it is on their terms rather than providing that information to someone asking directly for it. In addition, Livingstone, and Helsper (2010) found that socioeconomic status, age, gender, and perceived online opportunities influenced adolescents online risk taking. Where the benefits are

perceived as positive, or where the adolescent may gain something from the risk, they are more likely to engage in the risk behaviour. Radovic, Gmelin, Stein, and Miller (2017) found in their study that depressed adolescents tend to share more personal information and more often, which they class as 'oversharing' and sharing negative updates with social media which they class as 'stressed posting'.

Exposure to sexualised media (ESM)

There were Six behaviours placed in this category, these were, *sexual risk behaviours, online sexual solicitation, viewing pornography, explicit image/video sharing, explicit conversations,* and *high-risk sexual attitudes.* This category was included in twelve papers and presented as a common behaviour in adolescents. For example, in Lim, Agius, Carrotte, Vella, and Hellard (2017) study, 87% of participants reported viewing pornography. Three studies identified that between 6% and 25% of participants disclosed that they engaged in sexting behaviours (Buren & Lunde, 2018; Gomez, Harris, Barreiro, Isorna & Rial, 2017; Marret & Choo, 2018; Popovac & Hadlington, 2020). In addition, Sherman, Payton, Hernandez, Greenfield and Dapretto, (2016) found that when participants viewed risky images in an fMRI scanner, activation in the cognitive-control network of the brain decreased. This demonstrates how the frontal cortex (that controls inhibitions) is less activated in adolescents when faced with a risk. Therefore, lessening their ability to appropriately assess the dangers of this risk.

It is evident that there are age and gender differences that influence exposure to sexualised media (Ševcˇíková, Šerek, Macháčková, & Šmahel, 2013). When looking specifically at pornography, younger males appear more likely to be frequent viewers, especially if they are not heterosexual (Lim et al., 2017). Males seem to be the seekers of sexualised material and as a result report positive experiences (Buren & Lunde, 2018) which, consequently, can increase their desire to continue engaging in this behaviour. In contrast,

females are more likely to be asked to send sexualised media of themselves and often do not want to but feel pressured to do so (Buren & Lunde, 2018). Therefore, although they may have negative experiences, they feel pressured to take part (Monks et al., 2019) and often do because they are worried about the consequences if they do not. Similarly, females are at higher risk of sexual advances online which can result in offline meetings, particularly if those females are vulnerable (Noll, Shenk, Barnes & Putnam 2009).

Adolescent vulnerability, sensation seeking, and access to the internet increase the likelihood of being exposed to or engaging in sexualised media (Rice, Winetrobe, Holloway, Montoya, Plant & Kordic, 2015; Ševc̆íková et al., 2013). In addition, adolescents' perceptions of peer involvement, vulnerability, and risks, were all predictors of engaging in risky sexual online behaviours (Baumgartner, Valkenburg & Peter, 2010a). Race also appears to be a factor in meeting partners online for sex. Buhi, Klinkenberger & McFarlene, et al. (2013) found that multiracial males with a history of same-sex sexual activity were statistically more likely to have online sex partners. This demonstrated the impact of adolescent development, particularly their sexual development, race, gender, and their need for peer acceptance on the sexual risks that they take online.

Engaging with and arranging to meet strangers first met online

Three behaviours were placed in this category, these were, *making friends with strangers online, arranging to meet strangers first met online,* and *sex with internet met partners.* This category was included in nine papers and evidence suggests that adolescents are likely to engage with strangers online. For example, White et al. (2015) argue that adolescents make 10 times more friends online than young adults and making unknown friends online and age predicts this type of risk taking. Gay, lesbian, and questioning (GLQ) students, particularly males, were more likely to report online partner seeking, unprotected sex with an internet-met partner, and online sexual solicitation. (Rice et al., 2015). This may

be because GLQ adolescents are trying to find peer acceptance online, especially if it is lacking offline, and such desires can generate vulnerability, therefore resulting in adolescents being more trusting of the people that they meet online. Popovac and Hadlington (2020) found that 31% of their participants reported accepting friend requests from strangers on social media based on a profile picture and 26% had accepted friend requests from strangers on social media to increase their followers. Similarly, Wood and Wheatcroft, (2020) found that most of their participants engaged with strangers and were more likely to trust a stranger if they saw their face on a webcam, suggesting that their ability to assess trust in a person is limited. Physical and sexual abuse, neglect and depression are further vulnerabilities that can result in sexual advances taking place online and increases the likelihood of becoming friends with strangers online (Noll et al., 2009; Radovic et al., 2017). Multi-racial males, high school graduates not enrolled at a college, and adolescents who have engaged in same-sex behaviours, had greater odds of meeting a sex partner online (Buhi et al., 2013).

All participants who admitted to having an online sex partner were aged 17-19 years except for four participants who were aged between 13-16 years (Buhi et al., 2013). Ethnic minority males are more likely to engage with strangers online, and parental mediation and viewing pornography further increase their likelihood of using chat rooms and having offline meetings with strangers first met online (Marret & Choo, 2018). It is unclear why ethnicity plays a part in engaging with strangers online, though it may relate to experiences of discrimination, marginalization, and identity, that many marginalised groups feel. For example, LGB young people and particularly males are more inclined to engage with strangers online. Young gay, bisexual, or questioning males who are exploring their identity, sexuality, and trying to connect with people in their community may be more likely to do this online rather than in their offline environment and this will be more likely with lower parental supervision. For example, Gomez et al. (2017) found that 32% of their participants

engaged with strangers on the internet and 10% had met the strangers in person. When the participants were sorted into groups based on their internet characteristics, 48% of participants in the habitual internet users' group with parent-child conflict had engaged with strangers online and 18% had met with those strangers offline. Suggesting that parenting influences the desire to meet strangers online.

Interpersonal behaviours

Four behaviours were placed in this category these were, *digital status seeking, making self-degenerating comparisons with others, perceived popularity,* and *popularity seeking behaviour.* This category was included in four papers. Due to the behaviours being interpersonal, they cannot be synthesised. There were many different ways that researchers collected this evidence, ranging from validated scales to fMRI data. The main evidence that came out of this category is that adolescents have a desire to be accepted and to not deviate from what is perceived to be the norm for their age. For example, adolescents were more likely to 'like' photos on social media if the image had received many 'likes' from others compared to photographs that had received few 'likes' (Sherman et al., 2016). This demonstrates the social conformity of adolescence and the desire to avoid 'missing out', particularly for females (Popovac & Hadlington, 2020). Adolescents who are seeking a positive presence online (digital status seekers) spend a lot more time online which in turn increases their desire for popularity and consequently increases their risk-taking behaviour (Nesi & Prinstein, 2019) in order to gain likes. Adolescents who are experiencing emotional problems such as depression were more likely to post negative comments about themselves comparing themselves to friends or celebrities (e.g., make self-degenerating comparison) in order to attract online support (Radovic et al., 2017). Therefore, emotional issues, depression and mental health difficulties can impact on online risk behaviours.

Online risks not specified.

Five papers did not specify what types of online risks they were investigating, or they included analysis on risk taking as a whole, making it difficult to assign them to the above categories and to synthesise findings. Therefore, this section was included to take account of this, acknowledging that these papers still provide evidence of factors that influence risk taking behaviours online and equally shed light on the topic as a whole. The papers in this section have been beneficial in supporting what has been found already in the above categories. For example, adolescents generally take more risks than young adults (White et al., 2015) showing that age does play a role in risk taking and the more risks adolescents have taken in the past, the more they will take in the future (White et al., 2015) especially if these have been positive experiences.

There is further evidence in this section indicating that gender is a factor in risk taking. Again, males generally take more risks than females (Gomez et al., 2017; Notten & Nikken, 2016) and these risks decrease as they get older (Wood & Wheatcroft, 2020). However, having characteristics such as sensation seeking, parental set up, online opportunities and digital skills influence adolescents risk taking online (Gomez et al., 2017; Notten & Nikken, 2016; Rodriguez-de-Dios, Van Oosten & Igartua, 2018). The whole picture of adolescent risk is a complex one with many factors to consider, although it is evident that the factors exerting the greatest influence on adolescent risk taking online are age and gender.

Discussion

The aim of this meta-ethnography was to synthesise and evaluate the current evidence on factors than can predict adolescent risk taking online and the range of risks that adolescents take. Given how specific the research area is, it is not surprising that there were only 21 papers available on this subject. Nevertheless, the papers have provided insight into the different factors that influence online risk. Upon examination of the papers, it became

clear that the data was too varied to be combined for a number of reasons. In particular, there was much variation in the study designs employed. Across all papers, different methods of data collection were used ranging from validated scales to bespoke measures for example, interview questions devised by the researchers. Age ranges, sample sizes, and demographic data also varied across papers. Sample sizes ranged from 10 to 39,993 ($M = 3178.5$) participants, although, the population was mainly adolescents aged between 13 and 18 years of age, with the exception of four studies. One recruited only LGBT adolescents, one recruited specifically from a teen health clinic, one recruited from two mental health clinics, and one recruited abused and non-abused females for comparison. Even though sample sizes were good, and the population was mainly non-specific, due to the few studies that had specific populations and the disparate sample size ranges the possibility of pooling data decreased.

In addition, all papers included different behaviours or variations of behaviour, for example, viewing pornography and exposure to sexualised material. Therefore, it was not possible to combine data. However, this is to be expected as the topic is so broad and subjective with many variations and conceptualisations of the same risk. For example, sexting can be broken down into sending a sext, making a sext, or receiving a sext, which may encompass different types of characteristics. For example, males tend to ask for sexts and perceive the experience as positive, whereas females tend to be asked for sexts and perceive the experience as negative (Lippman, & Campbell, 2014). This resulted in the researcher being unable to conduct a systematic review, instead adopting a meta-ethnographic process. Although the results cannot be systematized, they offer an insight into the characteristics that influence risk taking behaviour online amongst adolescents.

The most noteworthy outcome of this study is that age and gender significantly influence risk taking online. This study showed that in general females engage in fewer risks

than males (Buhi et al., 2013; Buren & Lunde, 2018; Gomez et al., 2017; Lim et al., 2017; Marret & Choo, 2018; Notten & Nikken, 2016; Popovac & Hadlington, 2020; Rice et al., 2015; Ševcˇíková et al., 2013; Yuon, 2005) and younger participants engage in more risks than older participants (Gomez et al., 2017; Lim et al., 2017; White et al., 2015; Wood & Wheatcroft, 2020). It is, therefore, evident from this review that age and gender are significant predictors of risk in adolescence and further determine the types of risks that they engage in and their perceptions of this.

Exposure to sexualised media (ESM) indicated that a significant number of adolescents have viewed pornography at some point. This is particularly evident in younger males who seek out pornography and describe more positive experiences which in turn, increases desire and reinforces the behaviour (Buren & Lunde, 2018; Lim et al., 2017). In comparison, females are more likely to be asked for sexualised media and even though they often do not want to participate, they can feel pressured to do this, which results in negative experiences (Buren & Lunde, 2018; Monks et al., 2019). Moreover, vulnerability can increase the likelihood of engaging in sexual online behaviours, especially for females who feel pressured and worried about the consequences of their actions (Monks et al., 2019; Noll et al., 2009). In this category, having more and prolonged internet access was shown to increase the likelihood of being exposed to ESM and adolescents who are sensation seekers had an elevated desire to engage in the online sexual behaviours (Rice et al., 2015; Ševcˇíková et al., 2013). The perception of peer involvement also encouraged adolescents to take part, evidencing a desire for peer acceptance in this age group (Baumgartner et al., 2010a). Furthermore, adolescents have less activation in cognitive control areas in the brain, which is helpful in explaining sensation seeking, desire for peer acceptance and why, when viewing risky images, activation in this area decreases (Sherman et al., 2016).

Adolescents are 10 times more likely to engage with strangers online compared to young adults (White et al., 2015). In part, this may reflect the fact that the pre-frontal cortex is significantly more developed in young adults than in adolescents, increasing their inhibition and decreasing their sensation seeking. Adolescents often engage with strangers online to increase their following on social media, and they appear to be a lot more trusting of these strangers (Popovac & Hadlington, 2020; Wood & Wheatcroft, 2020), and as a consequence, do not take into account the potential dangers that this may cause. In addition, the number of unknown friends an adolescent has on their social media increases the amount of risk-taking behaviour they engage in online (White et al., 2015). The increasing desire for acceptance from others often stems from a vulnerability of some sort. Adolescents who are from an ethnic minority background or who identify as being LGBT (particularly males) have been shown to engage with strangers online and have online sex partners. However, this can also result in those adolescents being sexually solicited online because of the potential sexual content that they post (Buhi et al., 2013; Rice et al., 2015).

Moreover, adolescents may not feel accepted in their own communities, therefore they go online to find acceptance and to look for romantic partners, increasing their vulnerability to negative outcomes. In addition, being abused and having depression further increases the likelihood of experiencing sexual advances and making friends with strangers online, and these represent vulnerable groups of adolescents who may go online to find the acceptance and support that are not available offline (Noll et al., 2009; Radovic et al., 2017). There is also evidence to suggest that decreased parental mediation and increased pornography viewing significantly increase the likelihood of an adolescent using chat rooms and having offline meetings with strangers they have first met online (Marret & Choo, 2018).

To an extent, there is a lack of understanding about information sharing and privacy regarding the internet and this is one of the reasons that adolescents engage with strangers

online. They appear to be less worried about making connections with strangers and divulging personal information because it increases their popularity and perceived peer acceptance (Livingstone & Helsper, 2010). Adolescents share much more personal information on the internet compared to young adults and a significant number of adolescents provide personal information online when requested by a stranger or online acquaintance, somebody whom they potentially regard as a friend (Marret & Choo, 2018; White et al., 2015). In addition, if sharing this information is perceived as a positive experience, then adolescents will likely be motivated to do it again (Livingstone & Helsper, 2010). However, females post more risky information online compared to males and even though they are suspicious of it and may not have a positive experience, they are likely to do it again (Yuon, 2005). Adolescents appear to engage in risk taking online due to a desire to be accepted and not deviate from the perceived norm for their age even if the experience is negative, the social conformity with their peers can motivate this behaviour (Livingstone & Helsper, 2010). Adolescents in general gravitate to things online that are perceived as more popular with greater social gains and in particular a young female's desire for popularity is greater than a male (Nesi & Prinstein, 2019; Popovac & Hadlington, 2020; Sherman et al., 2016).

Despite this review focussing on risk taking behaviour, it has uncovered some protective factors for adolescents active online. Parental supervision and mediation of internet engagement can decrease the number of risks adolescents take online (Marret & Choo, 2018) and it may be that parents who supervise their children and mediate what they do online, have stronger relationships with their children and are trusted adults. Therefore, children may put more value on what their parents say, as opposed to a child who has fewer rules or parental involvement, though this is not always the case. It could be argued that being a female in some cases is a protective factor because female adolescents tend to be more suspicious of what is being asked of them online (Yuon, 2005) and often seek advice before acting on

requests. Similarly, females report more negative experiences from risks online, in particular if that risk is of a sexual nature (Buren & Lunde, 2018; Monks et al., 2019). Therefore, this may deter them from taking risks online. However, females feel more pressure than males which may increase their risk of taking part (Buren & Lunde, 2018; Noll et al., 2009). Lastly, age is a protective factor against online risk, the older the adolescent is, the fewer risks they take, and this is most evident when they enter young adulthood (Gomez et al., 2017; Notten & Nikken, 2016). As an adolescent gets older, their brain develops, changing the way they perceive risks, lowering their sensation seeking, and heightening their inhibitions. Brain development, taken together with past experiences, maturity, and a lessened desire to take risks results in greater personal protectiveness towards risks taken online.

This study is not without its limitations. For example, studies were limited to those written in the English language and the inclusion of studies that are not available in English may provide a more complete picture of the subject area. Further, the number and variation of papers identified prevented the combination of the data. It is clear that more research needs to be conducted in this area and as the field develops combination of data sets may be possible. Nevertheless, the review has brought insight into the growing and complex issues that adolescents face today.

Implications

Additional research must be conducted to investigate risk taking in children and adolescents and the motivations for this. For example, researchers could conduct longitudinal research with children aged 9 to 11 years old and before they are engaging on the internet socially, to look at different aspects of that child's life. Following this on, in subsequent years or at relevant time points, researchers can then look at what (if any) risks those children are engaging in online to generate a profile of risks based on the research carried out earlier on in the study. Particular attention should be paid to vulnerable children and those with identified

needs or issues that may make them more vulnerable to online risk. As this review identifies particular vulnerabilities to engaging in online risk and the fact that children are accessing the internet socially at a much younger age, particular attention needs to be paid to younger children.

Only four qualitative studies were included in this review. Taking into account adolescents' perspective on risk taking behaviour online is imperative to understanding why they engage in such risk taking and what influences their decisions. Research gaps will be filled in study two by gathering adolescents' views on risk taking online. Moreover, study one identified a high prevalence of exposure to sexually explicit material among adolescents, indicating that further investigation is needed. In study one, some factors were also identified that reduce risk taking among this age group. Study two adopted a qualitative approach to gain in-depth adolescent perspectives, which are currently lacking in the field. The results of study one indicates that risk taking and exposure to sexualised material are high among adolescents, with peers playing a significant role in influencing their behaviour and few protective factors being identified. Furthermore, there is limited research on how formal sex relationships and internet education affect these relationships. An examination of adolescents' perceptions of risky behaviour is the subject of study two. In addition, it examined the prevalence of exposure to sexually explicit material, the influence of peers, and whether educational factors offer protection.

Conclusion

More robust strategies need to be put in place to educate children about the potential dangers of the internet and associated subjects such as risk taking, consent, healthy relationships, body autonomy, confidence, and self-esteem to enable children to make informed choices about their internet use. In doing so, teachers and practitioners can identify individual areas of need to tailor support plans and interventions that will adhere to each

individual need to better safeguard them from negative outcomes that arise from the internet. These strategies need to be implemented around 8 to 11 years of age, before children begin to get a mobile phone and access the internet for social purposes. Implementing this strategy based on the available research will enable professionals to identify areas of need quicker, rather than implementing whole group universal sessions around the topic, where individual need may not be identified or addressed as quickly. Professionals can also work from a strengths-based approach and build on the protective factors that are already a part of that child's life.

In conclusion, this review aimed to examine the factors that can influence an adolescent's risk taking online. The review provides an insight into the subject, highlighting the importance of age, gender, peer acceptance, sexual exploration, identifying as LGTB+, having an ethnic minority background, and vulnerabilities such as mental health and past abuse experiences. Age and gender appeared in almost all papers. The main recommendation from this paper is that education and interventions need to be conducted with children before their teenage years and before they are accessing the internet socially in order to equip them with all relevant information surrounding staying safe online allowing them to use the internet safely, confidently, and positively. In doing so, this will also identify areas of particular need in individual children who may need more robust strategies to keep them safe online. Professionals can do this from a strength-based approach, building on existing positive factors.

Chapter 3; Adolescent perceptions of online risk taking and exposure to sexualized media

Introduction

Drawing on findings from study one, study two investigated adolescent perceptions of online risks and sexualised media in order to inform future practice and policy. Study one identified that there is a lack of qualitative research involving adolescents. At present, few studies have sought the views of young people in relation to internet risk and exposure to sexualised media, there are three important exceptions discussed below (DeHaan, Kuper, Magee, Bigelow, & Mustanski, 2013; Hillier, Mitchell, & Ybarra, 2012; Maczewski, 2002).

Hillier et al. (2012) conducted an online instant messaging focus group study with lesbian, gay and bisexual (LBG) and non-LGB adolescents aged 13-18. Each focus group logged on to a forum which contained a discussion board with set questions. Each participant was able to comment on the threads, answer the set questions and reply to other participants to generate a discussion. The researchers were then able to compare the answers between the LGB and non-LGB groups. Findings suggest that LGB adolescents are riskier internet users than non-LGB adolescents including meeting strangers online. Although this study gave important insight into the different experiences of LGB and non-LGB adolescents online, the study design limited the exploration of the subject because the questions were pre-assigned, and researchers were unable to elaborate on areas that warranted further exploration. Focus groups may also prevent participants from sharing thoughts or experiences they deem to be less socially desirable, as they will feel compelled to conform to group norms (Heary & Hennessy, 2012; Horner, 2000). These findings were important in identifying the different experiences between the two populations however this was a very specific area of research compared to the aims of study two.

Maczewski (2002) conducted an interview study investigating adolescents' perceptions of their online experiences and how those experiences influenced their lives. Nine participants aged between 13-19 took part in synchronous and asynchronous online communications with a researcher (that is, instant messaging and delayed messaging). Thematic analysis identified three themes (the notion of wowness, experiences of freedom, power and connectedness and, exploring self and identities through virtual relationships). However, like Hillier et al., (2012) this research method is limited in the data it can generate compared to face-to-face interviews because it is not possible to build rapport. It is also difficult to identify if the same person is answering and whether they are indeed an adolescent, something that the researchers identified as a possible limitation.

DeHaan et al. (2013) conducted a mixed methods approach to study the online/offline exploration of identity, relationships, and sex amongst 32 LGBT adolescents aged 16-24. One-to-one semi-structured interviews were conducted and thematically analysed to identify codes which were then defined using the constant comparison method. Results indicated the importance that LGBT adolescents place on the internet for relationship formation, support, and sexual health information. However, the mean age for the participants was 19.5 and only seven participants were under 18 years of age, therefore the study does not accurately represent adolescents aged between 13 and 17 which is the target age range for study one. Similarly, the study specifically focussed on LGBT adolescents which is a specific group and therefore does not represent a general youth population.

There is a need for additional research which engages adolescents, for example investigating their perceptions of current education programs intended to address online risk-taking behaviour. Adolescent perceptions and an in-depth understanding of adolescent behaviour should be explored further through research on the prevalence of exposure to sexualised material. There are several gaps in the literature, and the purpose of study two was

to address them. The following paragraphs examine research conducted on adolescent perceptions of risk, sexualised material, and the prevalence of exposure.

Perceptions of risk and vulnerability

Adolescents are often more 'tech savvy' and knowledgeable than their caregivers and in recent years this has become evident at much younger ages (O'Connell, 2003) which may be why they appear to be more confident in the online world, though not necessarily understanding the risks. The present study examined adolescents' understanding of internet communications in greater depth to determine how they have acquired their knowledge. Despite the technical expertise that adolescents demonstrate, and the feeling that they are in control and empowered by their online interactions (Maczewski, 2002), children and adolescents may be naive to the consequences of this behaviour (O'Connell, 2003). Naivety engenders a vulnerability in adolescents whilst online and influences the content that they are exposed to (Livingstone, 2008). Adolescents they may be less vigilant, therefore increasing the possibility of becoming exposed to negative content or malicious users (Memon et al., 2018; Mitchell et al., 2007) which they may not necessarily perceive as a threat. There has been limited research aimed at understanding the reasons why adolescents are less vigilant online and why they are more likely to take risks online despite the apparent dangers. The use of a qualitative approach allows study two to explore these issues at length and expand on areas of interest.

Adolescents may find sensitive subjects such as sexual health, sexual identity, and relationships difficult to speak to a trusted adult about and turn to the internet anonymously (Buzi, Smith, & Barrera, 2015; Evers et al., 2013; Magee et al., 2012). Hence adolescents are increasingly using the internet to explore their identities online (Baumgartner, Sumter, Peter, & Valkenburg, 2012), find information on sensitive topics (Simon & Daneback, 2013), or fill voids in their offline lives (Bonetti et al., 2010). For example, adolescents exploring their

sexuality and identity might use the internet to do this whilst they build confidence and come to terms with who they are (DeHaan et al., 2013; Whittle, 1998; Wood & Wheatcroft, 2020). However, users cannot assess whether information obtained online is accurate and may use online forums to ask questions about their anatomy or development that they find worrying or 'not normal' (Harvey, Brown, Crawford, Macfarlane, & McPherson, 2007). These forums can be beneficial for adolescents who feel that they cannot speak to a trusted adult, allowing them to gain information on a concern that they have with their sexual health. The questions posted in the forums are commonly answered by laypeople rather than medical professionals, often leaving out crucial information or including personal opinions (Cohn & Richters, 2013). Experiencing negative feedback offline or being unable or unwilling to 'open up' can motivate vulnerable adolescents to rely on the internet. Therefore, although the internet can imitate belongingness that adolescents might be lacking, it can also create a vulnerability which can be manipulated online. The qualitative approach taken in study two gained in-depth accounts of adolescents' motivations and reasons why they use the internet in the way that they do.

Online risk taking and exposure to sexualised material

Previous research suggests that online risk-taking increases the likelihood of experiencing negative outcomes and exposure to further online and offline threats (Memon et al., 2018; Mitchell et al., 2007; Whittle et al., 2013 a, b). As study one demonstrates, risk taking behaviour includes having a public social media profile, engaging with strangers online, and displaying personal information such as a telephone number or address. To an extent, the risks of online engagement can be mediated by caregivers who restrict internet usage for their children, educate their children, and have an open discussion about the reasons why they are taking this action (Shin & Ismail, 2014). Of course, interventions targeted at parental supervision alone cannot eliminate the risks associated with online behaviour (Liau,

Khoo, & Hwaang, 2005). For example, some caregivers have limited knowledge of the internet or how to use a computer (Wood & Wheatcroft, 2020) and Dowell, Burgess, and Cavanaugh (2009) found that 32.6% of boys and 15.7% of girls manipulate or override the filters or blockers that are installed on their devices. It is, therefore, important to directly engage with adolescents in order to understand their perceptions of online behaviour and associated risks. With a vast amount of sexual material available online (Ybarra & Mitchell, 2005) it is not surprising that adolescents are exposed to it. For example, in their study, Wolak, Mitchell, and Finkelhor (2007) found that 97% of 13-17-year-olds engaged with online pornography. Adolescents who had filtering and blocking software on their devices and those who attended presentations led by law enforcement appeared to reduced exposure (Wolak et al., 2007).

Research suggests that online sexual risk taking is much higher than offline sexual risk taking. Widman, Choukas-Bradley, Helms, and Prinstein (2016), argue that peer influence is partly responsible for increased sexual risk taking. They found that 78% of 12-15-year-old adolescents gave more risky responses (that is, being more likely to agree to take part in sexual activity) in a simulated chat room discussing sexual scenarios than they did in a private questionnaire assessing similar scenarios. Consequently, peer pressure has been shown to influence risk taking in adolescents (Huang, Unger & Soto et al., 2014; Rice et al., 2012; Van Hoorn et al., 2017), particularly if those adolescents are considered vulnerable, for example, having low self-esteem (Tian et al., 2020). Within peer groups, responsibility and consequences are diluted because there are more people who will be accountable for the action. Therefore, risk taking increases when group members can consult each other and come to a collective decision (Bougheas et al., 2013).

Witnessing group members or peers engaging in risky behaviour can begin to normalise that behaviour. Further, an adolescent is much more likely to speak to and trust a

stranger online to increase their following on social media and to fit in with their peers (Popovac & Hadlington, 2020; Wood & Wheatcroft, 2020). This situation can develop quite quickly and intensely into something negative, for example, grooming, where trust is considered a key stage of the process (Williams et al., 2013). Consequently, it is crucial to understand how adolescents perceive their peers and whether this influences their own perceptions and behaviours.

Research shows that once an adolescent has engaged with a stranger on the internet for a short while, they consider the stranger to be a friend and believe that they are being truthful. This truthfulness is further confirmed if they have engaged in a video call together (Ross, Rosser, McCurdy, & Feldman, 2007; Wood & Wheatcroft, 2020). Adolescent research has also shown that people gauge the trustworthiness of the person from social media profile activity without knowing anything else about the person (Toma, 2014). The more comments and likes that a friend contributes to a user's profile, then the more trustworthy the user is perceived to be (Toma, 2014). For example, if an adolescent regularly speaks to strangers online, they will more likely see them as trustworthy and consider them a friend, which increases the likelihood of meeting in person. Therefore, trustworthiness can significantly distort an adolescent's perception of risks. Study two explored adolescents' views on whether they understand the dangers of interacting online.

Study two

Previous research (e.g., Beebe, Asche, Harrison, & Quinlan, 2004; Fardouly et al., 2018; Hillier et al., 2012; Noll et al., 2009; Rice et al., 2015; Whittle et al., 2015) has identified factors that influence online risk taking. However, whilst informative, these studies focus on the *factors* associated with online risk taking in adolescents rather than how such issues are perceived by the adolescents themselves. It is, therefore, unclear whether adolescents understand the dangers of the internet or the risks they take online and if they are

aware of the consequences of such behaviour. The present study addressed this issue. Gaining an insight into adolescent perceptions of online behaviour is essential for understanding why adolescents continue to take risks online and developing interventions to address this behaviour in order to enable adolescents to use the internet safely and positively.

Study two adopted a qualitative approach. In order for research to be effective, adolescents' views must be taken into consideration. The meta-ethnography identified gaps in research and provided guidance to study two on how the topic should be explored. According to study one, peer pressure is a significant factor influencing adolescent risk-taking behaviour. To avoid peer pressure from affecting the answers of participants, one-to-one interviews were selected over focus groups. By including questions on friends' experiences, participants were able to discuss how peer influence affects their risk-taking behaviour. A qualitative approach incorporating open ended interview questions allowed the researcher to gain insight into adolescents' perceptions of risk taking and the prevalence of sexualised material. Sexualised material was chosen because study one has identified it as a prevalent risk behaviour. As a result, the researcher was able to identify specific areas of interest from study two and further explore them. According to the findings, sexualised material can desensitise individuals and exposure to such material is common. Thus, the researcher was motivated to study whether sexualised material has a causal effect on sexual attitudes and behaviours. The study also uncovered a lack of formal education on sex relationships and internet safety, which may further impact sexual attitudes and behaviours. The researcher explored this further in studies three and four.

Research questions

1. How do adolescents perceive online risks?

2. What are adolescents' perceptions of sexual media exposure?

3. How are adolescents being exposed to sexualised media?

4. What are the outcomes of risk taking and exposure to sexualised media online?

Methods

Drawing upon the meta-ethnographic review, a qualitative approach was chosen for this study because the researcher was interested in the perceptions of adolescents regarding their internet use, requiring the participants to give in-depth accounts of their opinions and individual stories of online interaction. Taking a qualitative approach to explore the field of interest enabled participants to talk in detail about their experiences and perceptions which opened up avenues for the researcher to explore in further studies. For example, study two emphasised that participants formal education on sex relationships and internet safety was poor and this seemed to impact where they got their information from on such topics (i.e., the internet and friends), which in turn influenced their behaviours. While quantitative approaches are typically used to test a hypothesis using large amounts of data (Fallon, 2016; Newman & Ridenour, 1998), qualitative approaches can gain perspectives of participants in their own context and can draw meaning from their experiences (Almalki, 2016; Denzin & Lincoln, 2005). Hagger and Chatzisarantis (2011) suggest that working on a theory-building strategy as opposed to a theory-testing method, is preferable in a qualitative exploratory investigation. As a result, understanding how adolescents perceive internet use and risky behaviour is improved by adopting an inductive method. Semi-structured interviews were chosen for this study because participants offer in-depth recollections that give the researcher more flexibility and allows the participant to elaborate on novel and relevant areas in their accounts (Polkinghorne, 2005; Smith & Osborn, 2008). The interview schedule was also adapted from Wood and Wheatcroft's (2020) study.

Interviews were chosen over focus groups because of the vast research on peer pressure (Bougheas, Nieboer & Sefton 2013; Cruwys, Greenaway & Ferris et al., 2020; Somerville, Haddara & Sasse et al., 2019; Tian, Dong, Xia, Liu & Wang, 2020; Van Hoorn,

Crone & Van Leijenhorst, 2017). Peers can influence the accounts shared in focus group research because adolescents perceive that they have a shared understanding with their peers, therefore restricting data to socially desirable responses (Horner, 2000). Additionally, research has shown that individual interviews are better at gaining information that may be considered controversial whereas focus groups tend to share collective views (Kaplowitz & Hoehn, 2001). Heary and Hennessy (2012) examined the difference between focus groups and interviews with children. They found that whilst focus groups elicit greater elaborate ideas, interviews are much more effective in producing relevant and unique ideas. Therefore, interviews are better when it comes to understanding an individual's perceptions and experiences (Hollander, 2004).

Participants were recruited through convenience sampling which is the most popular method for qualitative research given the small number of participants (Landreneau & Creek, 2009). The number of participants who took part in this study was eight (see chapter six for details). Several choices for data analysis were investigated, and consideration was given to which kind of analysis would be the most suitable. Grounded theory (Glaser & Strauss, 1967) was considered because this is widely used in qualitative research that adopts open ended interviewing for data collection (Burck, 2005). However, Grounded theory identifies key concepts that are grounded in the data (Toloie-Eshlaghy, Chitsaz, Karimian, & Charkhchi, 2011) and these concepts must present in the words of the participants (Strauss & Corbin, 1997). Next, the researcher considered discourse analysis which is commonly used to analyse meanings in interviews or texts (Burck, 2005). Discourse analysis, however, focuses on the language used to understand its role in the social world (Sawatsky, Ratelle, & Beckman, 2019), which limits the possibility for interpretation. Study two also considered interpretive phenomenological analysis (IPA). According to Smith & Osborn (2017), this approach focuses on how participants make sense of their world through personal experiences. IPA

utilises a dual analytical approach, focusing on both the common themes in the interviews as well as the unique elements in each interview (Braun & Clarke, 2021). Alternatively, thematic analysis explores themes across all interviews in order to find underlying meanings in the participants' comments, identifying implicit and explicit concepts within the text (Guest et al., 2012). It was the objective of Study two to gain an understanding of adolescents' risk-taking behaviour and their perceptions of the prevalence of sexualised material. Therefore, themes needed to emerge from the study as a whole so that a clearer picture could be obtained. As a result, thematic analysis was used to analyse the data.

Results from study two indicated how much time adolescents spend on social media and how much sexualised material is available on these platforms. In addition, it showed a desensitisation to being exposed to the content and that it has become normalised. Participants demonstrated how much value they place on their peers / perceptions of their peers, and also their peer's knowledge. Formal sex education, in the participants opinion was poor or lacking. These findings informed the development of the survey used in studies three and four.

Participants

Eight participants (1 male, 7 females) aged 13-14 years ($M = 13.63$, $SD = 0.48$) were recruited to take part via snowball sampling. Each participant was a member of a youth club in North-West England, and all were considered able to understand the questions asked and provide informed consent by an independent youth club gatekeeper.

Procedure

Consent was obtained from the local Council Head of Service, prior to approaching Youth Club Managers. The appointed Manager, serving as a gatekeeper, then identified potential participants. The researcher visited the youth club to verbally explain the study to potential participants and provided an information sheet (see appendix 4) to those interested

in the study. The researcher answered any questions and allowed people time to think about their involvement. If they decided that they would like to take part, the researcher contacted caregivers to inform them that their child was interested in taking part in the study by sending an information sheet (see appendix 1) and a consent form (see appendix 2) home with the participant or contacting caregivers via email. Caregivers who were interested were invited to speak to the researcher about the study. If the caregivers and participants were happy to take part, then they were each asked to sign a consent form (see appendix 4).

Each participant engaged in semi structured interviews (see appendix 6) with open ended questions and prompts. At the beginning of each interview, the participants were informed that they had the right to withdraw at any point prior to transcription and anonymisation of the data. Participants were informed that they would be anonymous. Data protection and safeguarding procedures were explained, and participants were provided with the opportunity to ask questions. Interview questions, informed by previous research, included *'Have you heard of the term grooming?', 'Do you feel that you take any online risks?', 'Can you tell me if you have ever had any negative experiences on the internet?'* and *'What do you think is risky online?'* Interviews were conducted in a private room in a youth club or online via the zoom platform. Where the questions appeared closed (such as; *What type of information do you share on the internet?)*, prompts were used to elicit further information where appropriate (for example, *What type of information do you think is acceptable to share on the internet?)*. Data saturation was reached after eight interviews with no new themes evident. Data saturation is usually reached at twelve participants (Guest, Bunce & Johnson, 2006); however, some researchers argue that other factors can be considered. For example, the level of detail in the interviews, the nature of the interviews and the flexibility to ask follow-up questions (Fusch & Ness, 2015; Mwita, 2022). Interviews varied in length with the shortest interview being 19.54 minutes and the longest being 48.20

minutes. The average length of the interviews was 38.06 minutes. At the end of each interview, the participant was given the opportunity to ask any questions and offered support if needed. Participants were then thanked and provided with a debriefing sheet (see appendix 5).

Despite disruption due to the pandemic, the interviews generally went well. One of the participants only used one social media platform (WhatsApp) therefore most of the questions in that interview focussed on perceptions and friends' behaviours. It became apparent after the first two interviews that some of the wording was not understood by the participants, so these were changed. '*One societal concern…*' was changed to '*some people think that…*', and self-worth and *self-respect* were changed to *confidence* and *self-esteem.* In addition, there was one question that was unnecessarily long, and it lost the focus of the participants. Taking in the information and answering the question required a break down by the interviewer. The question was '*One societal concern is that young people are overly exposed to sexual material online, it is too easily accessed, and it could impact on healthy sexual development. Do you agree with this or not?'* This was changed to; '*Some people think that young people see too much sexual material online do you agree with this or not?'*

Interviews were recorded on a Dictaphone and the transcripts were anonymised at the time of transcription and stored on the University's secure database. Analysis commenced in accordance with the guidelines for Thematic Analysis using Braun and Clarke's (2006) framework which recommends five stages. Stage one (familiarisation) included listening to the recordings, transcribing them and getting familiar with the data. Stage two (coding) began by colour coding every transcript one by one into categories such as sexualised material, or information sharing. Stage 3 (generating themes) involved looking for patterns in the codes to generate potential themes, for example, trust, peer pressure/acceptance/status, and understanding of grooming came under the initial theme of navigating risk. Stage 4

(reviewing themes) consisted of ensuring that themes were accurate by going through the transcripts where themes were added, removed, renamed, or merged. Quotes were assigned to one of nine themes, these were; *engaging with strangers, CSE and grooming, prevalence and exposure to sexualised media, perceptions of sexualised material, risk taking behaviours, understanding risk, risk consequences and effects, social media use and fluency, communication and socialisation,* and *social media outcomes* (see appendix 7, 8 & 9). A mind map of emergent themes and initial codes was made to act as a visual aid, and this allowed the researcher to review the themes and identify the most relevant ones (see table 3.1). The researcher then assigned quotes to each theme. Stage 5 (defining and naming themes) is the final stage where three themes and six subthemes were arrived at.

Table 3.1 – Examples of initial codes assigned to subordinate themes *social media at the forefront of adolescent life, navigating risk as an adolescent,* and *normalisation of sexualised media and behaviour.*

Social media at the forefront of adolescent life	Navigating risk as an adolescent	Normalisation of sexualised media and behaviour
Tech savvy	Understanding risk	Severity of sexual media
Social media use	Understanding grooming	Sexting
Communicating	Perceptions of friends	Perception of media
Socialising	Cyberbullying	Negative outcomes
Peer acceptance	Risk consequences	Perception of friends
Peer status	Levels of trust online	Self esteem
Peer pressure	Risk guidance	Amount of exposure
Social media fluency	Risk taking	Pornography
Loneliness	Perceived benefits	Internet education
Information sharing	Engaging with strangers	Sex education

To assess the reliability of the data and the analysis, the researcher considered credibility, confirmability, meaning in context, recurrent pattering, saturation, and transferability (Leininger, 1994).

Credibility. The researcher recognised her potential biases and tried to control these when analysing the data by taking on board exactly what the participant was saying and not interpreting this to fit any preconceptions. This was achieved by making sure the questions were open ended and broad allowing the participant to lead the interview based on their opinions and experiences. The interview data reflects direct accounts and participant perceptions which may be more credible than second hand accounts.

Confirmability. The semi-structured interview design allowed the researcher to gain detailed responses from the participant and to clarify points that were not clear or required the participant to elaborate. She had follow-up prompts under each question in the interview schedule to elicit further detail to clarify points. For example, question fifteen asks; 'Some people think that doing things online is risky. Do you feel that you take any online risks?' The interview schedule then has prompts for if the participants say yes or no, including what do you think is risky online? And do your friends encourage you to take risks? (See appendix 6 for more information).

Meaning in context. Some of the answers first provided by participants do not make sense without the related questions (i.e., just answering yes, or no) therefore, the researcher attempted to explain these answers if they were included in the analysis. For example, adding the word 'sharing' into this sentence adds meaning, *"Like, like not like [sharing] passwords, and like addresses and like more private stuff that like."*

Recurrent pattering. Many of the accounts provided by participants were similar which strengthened confidence in the themes. For example, participants use of the internet, the social media sites they used (and preferred) and how they were being exposed to sexualised material.

Saturation. The researcher concluded that saturation had been reached because no new information was emerging from the interviews. For example, participants generally

covered the same themes and shared similar experiences, therefore their accounts were similar and did not offer up new or novel information that would have required the researcher to continue with the interviews.

Transferability. Even though this research was focussed on social media use, adolescent perceptions, and their exposure to sexualised media the themes identified other elements that can be used to describe risk taking. For example, adolescent motivations, negative outcomes, peer influence and formal education.

Ethics

Ethical approval was granted (see appendix 10) by the Ethics Committee at the University of Liverpool and research was conducted in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). As outlined above, permission was also obtained from the local Council Head of Service. Safeguarding procedures were put in place and the confidentiality agreement was explained to participants, that is, if the participant disclosed something that the researcher felt put themselves or someone else in danger then this would be passed on to a safeguarding lead in the youth club, or the researcher would act as safeguarding lead when the interviews were on Zoom.

Results

Three superordinate themes and six subordinate themes (or subthemes) were identified (see table 3.2) via thematic analysis and agreed upon by all authors. The superordinate and subordinate themes that emerged were; 1. *Social media at the forefront of adolescent life* (Subthemes: *high social media fluency; importance of virtual communication and socialisation in adolescence*), 2. *Normalisation of sexualised media and behaviour* (subthemes: *desensitisation of sexual content; appropriate knowledge of sexualised media outcomes*), and 3. *Navigating risk as an adolescent* (Subthemes: *risk taking behaviours and varying perceptions; inconsistent knowledge and education on risk taking*)

Table 3.2 – Superordinate and subordinate themes

Superordinate Themes	Subordinate Themes
1. **Social media at the forefront of adolescent life**	a) High social media fluency b) Importance of virtual communication and socialisation in adolescents
2. **Navigating risk as an adolescent**	a) Risk taking behaviours and varying perceptions b) Inconsistent knowledge and education on risk taking
3. **Normalisation of sexualised media and behaviour**	a) Desensitisation to sexual content b) Appropriate knowledge of sexualised media outcomes

Theme 1: Social media at the forefront of adolescent life

Each participant reported spending extended periods of time online every day. All participants (except participant seven who only used WhatsApp) used social media daily and regularly shared personal information on it. They were knowledgeable about social media and the internet, and they were very 'tech savvy' regarding how to use it. They could identify the positives of using social media and the risks. Participants also conducted their offline lives through social media and as a way of communicating with friends. Social media has become an essential aspect of adolescent life.

High social media fluency

Young people have in-depth knowledge of how social media works and this was evident in the interviews. Adolescents could confidently explain the functionality of social media platforms and given that participants used the internet daily, this was no surprise. Most participants use the internet for a range of reasons and for extended periods of time. Four of

the participants used social media for three or more hours per day, one participant used it every hour, one participant went on and off social media throughout the day for ten minutes at a time, and one participant stated that they used social media on and off all day but for extended periods. One participant stated that they have a one-hour time limit set by their caregivers, but that they used this in one sitting. Participants did state the amount of time they spent on social media was determined by what they were doing. Messaging or face timing friends and watching videos took longer than if they were scrolling news feeds or posting pictures.

The level of fluency participants demonstrated on social media was high. They all articulated what social media platform was best for a certain activity, even though most social media platforms have multiple purposes. Instagram was used for posting pictures, looking at pictures of their friends and facetiming people. Snapchat was used for group chats with friends, and TikTok was used for following celebrities, commenting on posts, and watching videos for prolonged periods. For example,

> *"I'll use Snapchat for messaging people a lot that's kind of what I message a lot of my friends on apart from people that don't have Snapchat then I'll then message people on Instagram erm, and then sometimes if I'm really bored obviously I would look through people stories and if I'm on Instagram I'll look through like peoples posts but I'm not on Instagram a lot and then TikTok obviously just sort of look at videos I don't really post anything either. Pinterest I just do it for the fun of it Facebook I just do it when I'm bored, but it's mainly Snapchat and TikTok though."* (Participant 6).

Most of the participants did not post their own videos on TikTok, except the participant who had their own following. Facebook and WhatsApp were used to communicate with family members. This may be because Instagram and TikTok are newer and a lot more popular with celebrities, whereas Facebook is well established, therefore the older generations tend to use

it, and WhatsApp is quite conservative, compared to some other social media platforms. Snapchat on the other hand can be riskier as it cannot be monitored due to the disappearing messages, therefore this may be why it is the most popular platform to communicate with friends.

Participants were knowledgeable about current trends in the social media community. They understand the complexities of using social media and how to portray themselves online and achieve what they desire. Participants knew the intricacies of each site for example, they knew how to set some content as public and some as private, they knew which sites have location maps, they knew how messages, friends request and photos appear on each app, and they knew that people could screenshot your message, therefore which sites to not post content on. As stated by one adolescent,

> *"On Snapchat it will like come up with a name that they've sent you something. But if I don't know them, I'd probably block them straight away. But whereas like on messenger it will probably come up they've sent you a photo, so I'd like probably go on it coz I don't know what they've sent me but if it was that id block it straight away and like report it."* (Participant 2).

Consequently, few participants posted content on their social media accounts and used it to communicate. Participants were able to describe the more unknown parts of the internet like the dark web, using VPN's and incognito browsers, how to clear search history, and how smart phones can track people's daily activity. They were aware of how people can use the internet for more sinister reasons.

Importance of virtual communication and socialisation in adolescents

Seven participants had social media accounts. Six participants used WhatsApp, five used Instagram, four used TikTok, Facebook (including messenger) and Snapchat, two used

Xbox gaming chat, and one participant used Pinterest and Twitter. TikTok, Instagram, Snapchat and WhatsApp were chosen as the preferred social media platforms. For example,

"I'd say Snapchat is like my friends, like I think I've got like three family members on it. And then Facebook's like, friends and family like I've got lots of, all my family on there, like mum's cousins aunties sister, like random like far family. And then Instagram is more of a like, my friends follow me, but I follow some people who I don't, I do know but like." (Participant 1)

Participants accessed the internet mainly for social media, school, and gaming. Participants preferred to communicate with their families via Facebook or WhatsApp. Social media was predominantly used for communication, usually with friends. They spent a lot of time messaging and facetiming friends, scrolling through news feeds and people's stories, and sharing what they are up to. Participants made most of their plans through social media via group chats on Snapchat, Instagram, and WhatsApp, or by messaging their friends/family. For example, *"Like just like, are you going to footy tonight or do you wanna go out or I dunno, or stuff like that really."* (Participant 3)

Participants spent their time watching videos, sharing posts with their friends, commenting on posts, and following celebrities. Some participants enjoyed finding information about other people by looking on their feed, they also enjoyed making new friends. Participants liked playing games online, on social media, or on Xbox whilst talking to people and some participants shared their location with friends when they were out, or for friends to meet them. For example, *"On snapchat id like, in my group if there was like a rumour going around about my friend it would probably go straight to that group like about someone."* (Participant 2). Social media is particularly important to the participants, and it seems evident that their lives revolve around it. When participants were asked what they liked to do socially or in their spare time, most of the responses included social media use.

For example, *"Erm, messaging my friends face timing my friends looking at people's posts on Instagram and going on TikTok."* (Participant 6)

Only a few participants mentioned activities that did not include social media. For example, going to the youth club or shopping. However social media played a role in offline socialisation because participants made their plans through social media and posted their location or pictures. Participants also value followers and 'friends' on their social media accounts as a type of social status. Most participants said that their 'friends' or followers were people that they knew, friends of friends, or people in their school. Participants had often not spoken to or met the latter two 'friend' types, *"I think with people I don't know it's either like asking who they are or like if I'm getting to know them then it's just like getting to know them you know."* (Participant 8). However, participants would describe them as people they knew and not strangers. One of the participants has a following of 300+ people that they do not know. Participants play out their lives on social media, they enjoy the positive attention, popularity, and acceptance that it affords them.

Theme 2: Normalisation of sexualised media and behaviour

Seven of the eight participants interviewed had some experience of sexualised media. Participants admitted to being sent nudes, knowing friends who have engaged in this behaviour, or being exposed to sexual material through social media or group chats. Exposure through social media or group chats was unwanted by the participants and none of the participants said that they sought out sexual material to look at. However, they spoke about exposure to sexualised media as it if was a normal occurrence. The participants seemed knowledgeable on the subject and how this type of exposure can take place. They had differing views on whether sexting and viewing sexualised material was risky, though being exposed to this content seemed commonplace.

Desensitisation to sexual content

     All participants reported that young people see too much sexual content and either come across it by accident or deliberately search for it. For example, Participant 1 stated "*…I think it's more accessible than it should be. Like it's easy to get hold of.*" Five participants said that young people are exposed to the content mainly by accident, one participant said young people are exposed to the content mainly through searching for it, and one participant said young people are being exposed to the content because they are searching for it and being exposed to it by accident. For example, *"Yeah, like erm, I think it's their choice. So, I think like erm, some people will like see it too much and some people like see it by accident… searching it too much."* (Participant 3). Six participants described how they were exposed to sexualised content through group chats. People sent videos or links to deceive the group chat members into thinking the video was something else, so they click on it, therefore being exposed unwillingly.

> *"Well, I mean I've like 'cause if someone that I know is sent a link to a group chat as a joke and it turned out to be like obviously like I don't know like a porn video or something and then I press it and accidentally I watch it it's funny and obviously I go like of it"* (Participant 6)

However, young people continue to click on these links and videos, despite knowing what the content could be. Six participants talked about their social media feed, content they follow, and their social media friends. They explained how the content they are exposed to online is related to what they follow or are interested in. The social media site will suggest videos or content for them to look at and sexual content can often be displayed here even though they do not want to see it. For example, "*Erm sometimes It'll come up on your feed but most of the time on Instagram it's based on your interests and who you follow and who your friends follow.*" (Participant 5).

Similarly, participants explained that people post sexual content in the comments section on people's posts (mainly celebrities), and these are often fake links that then display sexual content.

> *"I know people who have seen it and there's been like TikTok's that are like*
> *saying about a TikTok and like oh have you seen this and then all the comments*
> *are like what is it like you know yeah"* (Participant 8)

Two participants spoke about the differing levels of severity of sexualised media by classing bikini and underwear models as less severe content which is widely available online whereas relatively severe content is more likely to have to be searched for.

> *"Erm, I feel like it depends what kind of sexual content it was because if it was*
> *like, because a lot of people now obviously model for like underwear and you*
> *know bikinis and all that and if you thought of that as like sexual content then*
> *yes because there's a lot of it … and then I feel like everything else isn't really*
> *promoted you don't just see by chance you have to like purposely search...."*
> (Participant 6)

Two participants discussed the content type which can come in the form of pictures, videos, and texts/messages and often come from strangers, older men, and from other countries. For example, "*Like once or twice, yeah but someone I didn't know… Erm, messenger, like someone from a different country, or on probably Snapchat yeah as well… Picture or yeah on text."* (Participant 2).

None of the participants said that the sexual content featured people they know however, when the questions turned to sexting, this was different. When asked about sexting seven participants said it was risky, of those participants, one said it was risky but a common behaviour. One participant said it was normal and one participant said that images were risky but sexual conversations were normal. For example, *"I think it's normal for young people to*

do." (Participant 8). Six participants said that they knew someone from school or a friend who had sent an indecent image of themselves to others and four participants had said they had been sent nudes or had been asked to send them, *"So, someone I know once sent them to me and then I told him not to, they did it again, so I blocked them"* (Participant 6). This was often from people they knew or from people in their school that they knew. Participants spoke about sexting and being exposed to sexualised media nonchalantly or described it as funny.

Appropriate knowledge of sexualised media outcomes

Despite the desensitisation to sexualised media demonstrated by participants, their knowledge of sexualised media outcomes was accurate. All participants agreed that exposure to sexual media or involvement in it (e.g., sexting) can have negative consequences and can impact mental health. Participants explained how images can be screenshotted and distributed widely and can be posted online. For example, *"Well, the other person can just screenshot it and then it goes everywhere"* (Participant 1). Participants recognised that fake accounts can be created, images can be posted, and reposted, young people can be blackmailed and bullied, and it is difficult to remove sexual material from the internet. Participants stated that this can impact significantly on mental health, causing depression, feelings of worthlessness, and suicidal thoughts, *"Probably depressed and all, yeah like make them give up and not really wanna do anything anymore. All like suicidal and that."* (Participant 2). Only two participants stated that police can get involved in sexting as it is illegal. These participants had been taught this by their parents (who work with young people) or from a youth group. For example, "*Erm, can't they get the police involved?...* (Participant 4).

Participants could also explain factors that influence whether adolescents take online risks or not. They talked mainly about being lonely, not having any friends, depression, and peer pressure as indicators of taking greater or fewer risks. For example, they may go online

to make friends or speak to new people and if they have limited knowledge or education, they may be less aware of the implications.

> *"Erm, they could make it, get made to do things that they don't wanna do so because they're really lonely and they feel quite low and depressed that someone might say to them if you do this then I will make your life a dream and will get everything you ever wanted."* (Participant 7)

All participants reported that having a romantic or sexual relationship with an adult was wrong and dangerous. All participants acknowledged that the adult would not have the best intentions and that they would feel concerned for the young person, and they would report it. For example, *"that adult could be using her to do things or yeah coz, she's young...Yeah, I wouldn't think it wasn't right really, I would think it was wrong."* (Participant 2). Participant's own experiences informed these perceptions and three of the participants knew a young person that had been in an inappropriate relationship with an adult.

> *"Like so there's like someone our age whose telling me that somebody else is like speaking or meeting an adult and I was like oh you're going to have to do something, so I was like basically kept going on about her doing something or me doing something."* (Participant 1)

Seven of the participants had experienced the consequences of exposure to sexualised media either personally or through someone they knew. Therefore, this contributed significantly to their knowledge of the potential outcomes. All participants identified only negative consequences of exposure to sexualised media. Although all participants talked about the consequences negatively, this contrasted with their perception of seriousness which was evident in the previous subtheme.

Theme 3: Navigating risk as an adolescent

Participants' perceptions and behaviour did not always correspond. Further, there was some variation between adolescents. Being sociable, gaining friendships, and having positive experiences from those friendships were core elements of risk perception and behaviour.

Risk taking behaviors and varying perceptions

All eight participants reported they did not take risks or speak to strangers online. Participant seven did not have any social media except WhatsApp, but of the other seven, six said that they had private social media accounts and one participant said that they had a private and a public social media account, *"I have a public account on TikTok and a private account and same on Instagram have a public and private account."* (Participant 8). Only one of the participants did not use a picture of themselves on their social media profiles, *"I normally just erm, normally use a quote for a profile photo so like people you don't know can't see what you look like."* (Participant 5).

Even though all participants reported that they did not talk to people they do not know online, adolescents disclosed scenarios where they had engaged with strangers online. For example, one participant had said that they had spoken to a stranger on Omegle, and one had engaged with a stranger on TikTok, *"Like a while back, yeah, like I had TikTok. Erm, I was talking to this girl, and I said where I go to school…"* (Participant 3). Three participants had spoken to strangers on gaming chats and one of those participants had face timed someone they had met through a gaming chat. One participant said they met new people through Snapchat and one participant said that they would use the internet to 'check for dates' (i.e., romantic relationships). Other participants admitted to engaging with strangers through comments on posts and one participant has their own following on social media, therefore engaging with strangers through their posts. For example, *"Yeah, it's like if I'm playing with*

my friends and more people can join and then depending on what their ages and stuff, I might like to speak to them." (Participant 5)

Participants discussed what they were comfortable sharing online and what they considered to be risky or positive online behaviour. Most participants agreed that it was acceptable to share their name, pictures, and their hobbies on social media, for example, *"Just my name and a picture."* (Participant 4). Furthermore, most participants agreed that it was unacceptable to share inappropriate pictures, bank details, passwords, and their school. However, contrasting opinions were evident in relation to the acceptability of sharing their birthday or where they live. When discussing risks, participants talked about obvious risks such as sending indecent images, talking to strangers, and having their social media accounts set to public. They also reported that having their location turned on, posting pictures whilst at a location, watching porn, bullying, and going on chat websites was risky. For example, *"Like, like not like [sharing] passwords, and like addresses and like more private stuff that like."* (Participant 1).

Socialising was central to the perceived positive elements of the internet including, having lots of followers, making friends, showing people what they have been up to, sharing pleasant things, and forming new relationships. Participants also liked it when people posted pleasant things about them or sent them nice comments. For example, *"Yeah, I've been able to like send pictures of like things I'm doing so like going to the zoo or something an sharing my experiences with them."* (Participant 7). An important aspect of risk perceptions was the perception of trust. Three of the participants spoke about face timing people they had first met online. They stated that if they had spoken to someone on face time, then this would alleviate their worries that the person was being deceitful because they could see their face, therefore believing that the person was being truthful. For example, *"Erm, yeah like if we'd Face Timed and they show their face, and you know like actually walked about and like show*

that's not actually just like a screen or whatever then I think you know." (Participant 8).

Adolescents stated that they would consider the person to be someone they knew or a friend rather than a stranger after face timing with them. Participants also said that meeting new friends online was easy, and they could get close to people they have met online.

Inconsistent knowledge and education on risk taking

Inconsistent knowledge and education on risk taking was evident. Six of the participants commented that they were not given enough guidance on risk taking, two participants said that they were given enough guidance from their family, and one participant said that they were given enough guidance but had not had any from school. Three participants reported they received guidance from caregivers because of their careers and one participant said they obtained guidance from a youth club attended. For example, *"Yeah, really because, kind of like erm mum works with like young people yeah so that helps."* (Participant 3).

School education on risk taking was inconsistent. Participants generally agreed that there is not enough information about online risk taught in schools with one participant stating that young people can go through school and learn nothing about online safety. Another participant commented that they had attended one talk in year seven delivered by the police. However, another participant said that they were taught a lot in school about online risk, social media, and how to be safe online. As commented by one participant, *"Erm in school no, I feel like it's really rubbish you know you could easily go through school and have learnt actually nothing about your safety online."* (Participant 6).

Another issue to emerge from the interviews was that the participants did not seem to fully understand what grooming is, reflecting the limited education received on online safety. None of the participants could confidently or comprehensively explain what the term grooming meant. Seven of the participants reported that they had heard of grooming, four

said they knew what it meant, one said they were unsure what it meant, and two participants said they did not know what it meant. For example, *"Something to do with men and kids. I don't know."* (Participant 1). Of the seven participants who had heard of grooming, five of the explanations were vague, and two were more detailed. Vague responses included that it was sex, to do with men and kids, or that an older person makes a younger person do things. In addition, one participant said that they had seen a storyline on a television program about grooming. The two more comprehensive explanations came from one participant who said they had been shown a video of grooming by police officers who attended their school, which showed an old man pretending to be someone else online to speak to a child. The other more comprehensive answer included being manipulated and building an emotional relationship with somebody younger,

> *"Isn't it where someone builds an emotional relationship with you and*
> *promises you loads of things and treats you amazingly and then kind of, not*
> *forcing you but just says oh do this thing if you love me and you know often it's*
> *someone that's younger than you just because it's, there more naïve"*

(Participant 6)

Taking into consideration the limited and inconsistent education on risk taking those participants received, they gave their suggestions on what they would like to happen. Seven of the participants said that these topics should be taught in schools and two participants said they should be taught in small groups with tailored support to enable young people to talk about their feelings and get support from other young people with similar experiences. Six of the participants spoke about better guidance, for example, removal of offensive or inappropriate content for children, warnings before you send inappropriate content or before you download an app, and a compulsory logo on pictures that have been altered, photoshopped or include filters. For example, *"They should have a warning before like you*

download the app or send something or like offensive context." (Participant 3). Three participants commented that young people should be taught the consequences of risks, especially through lived experiences and one participant suggested that young people need more activities to do to keep them occupied and deterred from risk taking. Two participants said that nothing effectively could be done to change the internet for the better.

Discussion

Thematic analysis of the data revealed three superordinate themes. These were, 1. *Social media at the forefront of adolescent life,* 2. *Normalisation of sexualised media and behaviour,* and 3. *Navigating risk as an adolescent.*

Social media at the forefront of adolescent life demonstrated the importance of this type of communication amongst adolescents. Essentially, adolescents' lives revolve around social media, and this was apparent in the participants' interviews. Social media knowledge and ability were high, typical of young adolescents (O'Connell, 2003). High social media fluency engenders confidence in adolescents which can influence the precautions they take (or fail to take) online. Previous research has shown that adolescents believe they are in control of what they do online, which can cause naivety, increasing the likelihood of negative experiences (Memon et al., 2018; Mitchell et al., 2007; O'Connell, 2003). This naivety is often a result of overestimating their ability to control their online activities, which can lead to a lack of caution when engaging in behaviours such as sharing personal information or engaging with strangers. This is especially concerning considering the potential for online predators and other malicious individuals.

Normalisation of sexualised media and behaviour acknowledged the adolescents' perceptions of sexualised media and behaviour and addressed the perceived normality of such content. In their studies, Ybarra, and Mitchell (2005) and Wolak et al. (2007) found that sexual material is widely available online and most adolescents are exposed to it at some

point, which became evident in the interviews. Participants could generally explain the outcomes of being exposed to or engaging with this content despite this, they accepted it as commonplace. All participants could describe a situation where they or someone else was exposed to the content, including friends or people in school who had engaged in sexting. Participants perceived this as a normal part of adolescence even those who thought it was a risky behaviour. This suggests that sexting is becoming increasingly normalised within adolescent circles, most likely due to its prevalence on social media and in popular culture. Thus, even those who recognise the risks of sexting can still find themselves engaging in such activities due to the normalisation of it within their peer group.

Navigating risk as an adolescent demonstrated how complex risks can be for adolescents to manage. Participants were more likely to take risks if there were perceived benefits to it, for example, gaining followers or forming new friendships. Popovac and Hadlington (2020) found that adolescents are much more likely to speak to and trust a stranger online if it will increase their following or make them fit in with peers and this became clear in this study. Participant's perceptions of risk differed based on familiarity for example, when speaking to strangers, if they had spoken to them for a while and even face timed them, they felt that the person was not a stranger. This perception was in line with previous research (see Ross et al., 2007; Wood & Wheatcroft, 2020). The differentiation in perceptions can be explained by the lack of or inconsistent education and knowledge of risk taking spoken about by participants. The participants were aware of the risks in different activities, but their perception of these risks changed depending on their own experience and knowledge. This knowledge gap can be attributed to a lack of formal education and training in certain activities, as well as a lack of access to reliable and up-to-date information. As such, participants tended to overestimate or underestimate the risks associated with certain activities, which led to an overall perception of risk that did not accurately reflect the true

level of risk. This highlights the importance of providing consistent, comprehensive education and information about risk-taking behaviours.

New knowledge is gained from this research, in terms of the ways in which themes and sub-themes influence each other and help to explain an adolescents view of risk, and their risk-taking behaviour online. The interviews demonstrated how social media is very important in an adolescent's life and they gain a lot of pleasure from exploring the online world. Participants perceived some things as less risky if the outcome was positive, for example, making new friends or having more followers on social media. Participants also liked to post content on social media for their friends and followers to see and if they received 'likes' or supportive comments, this then reinforced the behaviour as positive. The more time they spent on social media, the more fluent and confident they became, and their risk perceptions of the internet decreased. However, even though some participants said sexting was risky and they would not engage in it themselves, they did not seem phased by it or by the amount of sexting/sexual material that is available on the internet. Exposure to sexualised media was common and happened in several different ways. This suggests that participants had a certain level of normalisation with sexualised media and this familiarity may have been due to the amount of time they spent engaging with it. This could have been because they became more familiar with the content and more fluent in the online environment, which in turn made them less likely to perceive potential risks associated with sexualised media. This was one of the first studies to examine formal sex education.

The knowledge that the participants had about online risks, social media, sexualised media, and the consequences of this appeared to stem from their own experiences or the experiences of people they know. Participants spoke about having limited or no education in schools about the dangers and risks of using the internet. In the U.K., there is currently no statutory education policy for internet safety, but there is guidance within education policies.

The 'Keeping children safe in education 2021 – statutory guidance for schools and colleges' (Department for Education, 2021) includes guidance in part 2 (management of safeguarding) under the heading 'Opportunities to teach safeguarding". This guidance states that,

> "*Governing bodies and proprietors should ensure that children are taught about safeguarding, including online safety*" and that *"Schools should consider all of this as part of providing a broad and balanced curriculum…This may include covering relevant issues for schools through Relationships Education, Relationships and Sex Education and Health Education".*

Considering that online safety education is not a compulsory part of the curriculum, it is no surprise that the education received by participants was found to vary in quality and quantity. This may influence levels of risk taking online. Indeed, participants did not fully understand the term *grooming*. Not providing this type of education in schools can be detrimental to adolescents because they are creating their own knowledge base from peer influence and their own experiences of the online world. Findings build upon previous research indicating that adolescents obtain information off the internet rather than trusted sources like schools or caregivers (Buzi et al., 2015; Cohn & Ritchers, 2013; Evers et al., 2013; Harvey et al., 2007; Magee et al., 2012).

Practical implications

Taking these findings into account, policy makers and other professionals should focus on effective education at a primary school age, to empower children and adolescents to use the internet confidently and safely. Gaining adolescents perceptions can help policy makers to address these issues from a child centred approach because previous interventions and education do not seem to deter children and adolescents from taking risks online. This should be a compulsory part of the curriculum to ensure continuity for all children, with follow up education every year to account for the development of the child. Emphasis should

be placed on sexual content and sexting and how this can impact the perceptions and sexual development of adolescents. In addition, the notion of trustworthiness which can impact perceptions and risk-taking behaviours should be addressed. An overall package of education that holistically addresses online risk will be more beneficial than traditional methods. For example, to include loneliness, self-esteem, confidence, vulnerabilities, peer pressure, social and emotional factors, sexual exploitation, grooming, healthy relationships, reward seeking and pleasure gaining, and internet safety advice (i.e., security settings and features).

Limitations

As valuable as this research is, it is not without its limitations. This study took part during the pandemic, potentially impacting the way in which students engaged with social media and limiting youth club recruitment. However, the depth and quality of data mitigated for sample size because it provides an important insight into an under-researched area that can guide policy reform. In addition, data saturation was considered to be reached because no new data was emerging from the interviews. Another notable limitation came from the differences in the participants education levels and parental supervision which may have influenced their answers and indeed their experiences, for example, some participants parents had more involvement in their online world by teaching them about dangers and some set restrictions on how long they could use social media or what sites they could use. Some parents had no involvement; therefore, the level of supervision and communication will have affected how they used the internet. Future research should consider the impact of factors such as education, parental restrictions, and the presence of other adolescents using social media in the household, on online perceptions of risk-taking and risk-taking behaviour.

Some of the participants were known to the researcher which has potential ethical issues. The researcher was the youth worker of four of the participants and this may have complicated the relationship. This was carefully considered with the ethics board and

mitigations were put in place. For example, explicitly explaining that the researcher was in the role of a researcher and was not the youth worker at that specific time. The researcher wore her university badge as a pose to her work badge. The participants were informed that taking part would not have any intended benefits and that by not taking part, this would not affect the support they received at the youth club. However, there is research to suggest that having a pre-existing relationship with a participant can be a benefit for the researcher and the participant because the participant shares more information and feels more comfortable discussing sensitive topics with someone that they already have a rapport (Garton & Copland, 2010; Greenleaf et al., 2021; Roiha & Iikkanen, 2020; Weinreb et al., 2018;). Nevertheless, researchers should be cautious of interviewing participants that they know and should consider using another interviewer for those participants.

Future research and conclusions

As a result of these findings, more research should be conducted with the adolescent voice at its centre. In study two, emerging themes were identified that could be used as a guideline for future qualitative research on adolescents and online risk. This was an exploratory study designed to understand online interactions and exposure to sexualized materials. Several important areas have now been identified through the themes of study two that require further analysis. For example, education on sex relationships and internet safety, peer influence on online risk and exposure to sexualised materials. Furthermore, the study could be replicated to account for sample size limitations and to capture the experiences of different adolescents. The different experiences of these groups could be examined by asking questions on gender, sexuality, and disability. Additionally, the study could examine how individual and environmental factors interact to influence adolescents' online sexual behaviours and experiences. For example, parents, guardians, and peers' involvement in online activities, educational and social messages provided to adolescents, and the impact of

social media on adolescents' sexual attitudes and behaviours. The areas addressed will be examined in study three part one.

In conclusion, this study has demonstrated the need for more education for young people. Children and adolescents value the internet as part of their social lives, to explore their identities and to engage in activities that they gain positive feedback. Consequently, adolescents can get involved in (sometimes unwillingly) negative aspects of the online world such as exposure to sexualised media and forming relationships with strangers. Peer pressure, wanting to fit in, raising self-esteem, low confidence, and loneliness can all impact how an adolescent uses the internet. In the present study, the perceived normality of online risk taking, and sexualised content was especially apparent, in part reflecting the frequency of negative experiences. The idea that 'everybody is doing it' is concerning. Therefore education, policy change, and further research are key in tackling this issue and to safeguard children and adolescents in the future.

Chapter 4; Adolescent exposure to sexualised media online and the impact of this on offline sexual attitudes and behaviour.

Introduction

Study one aimed to provide a comprehensive overview of the factors that contribute to online risk taking in adolescents that has informed study three part one. Findings from study one pooled research identifying factors that contribute to adolescent risk taking online. Research into exposure to sexualised media is heavily studied with over half of the papers in study one examining this risk and showing the prevalence of this exposure. Therefore, sexualised media was examined in study three part one. The factors identified most frequently were peer acceptance and perceptions of risk and this will further be examined in study three part one. Results from study one also indicated that age, gender, peer acceptance and mental health contribute to online risk taking in adolescents. Study one was also able to identify protective factors from existing research including parental supervision and mediation of internet engagement. Family relationships and mental health are examined in study three part one to assess if they are protective factors. Age was identified as both a risk and protective factor because younger adolescents took more risks compared to older adolescents who took less risks, showing that risk taking declines with age.

Study two aimed to build on the findings of study one by examining perceptions of risk taking and internet usage directly from adolescents. Study two found that adolescents are somewhat desensitised to the sexual content they are exposed to because it seems commonplace and almost normalised. Study three part one will see if normalisation of the content has any impact on sexual attitudes and behaviours. Sexual exposure often happened through social media and amongst friends indicating that early exposure happens socially and often isn't intentionally sought out in the first instance. There is a need to examine this on a larger scale (this was done in study 3 part 1). Adolescents were very knowledgeable about

how this content reaches them and of the consequences, which they admitted where negative. They often didn't perceive exposure as especially risky or if they did, they thought they were in control of the risk. This was particularly evident if the outcome of the risk was perceived as positive (i.e., gaining more followers on social media). Another noteworthy finding was that education on sex and relationships, and internet safety was often perceived as poor, suggesting that any knowledge the adolescents had on these topics was obtained through their own personal experiences and that of their friends, which they heavily relied upon as truth. As a result, education and peers were examined in study three part one.

Study three part one and four examined two time points. Time point one (adolescents) will be examined in study three part one and time point two (adulthood) will be examined in study three part two. Study three part one builds on findings from study one and two and the initial literature review conducted for this study, to address the research gaps identified. It brings together many elements of risk and protective factors to identify the main influence(s) on unhealthy sexual attitudes and behaviours underpinned by direct accounts from study two. In addition, the study examines education (as there is limited research on this subject).

Rationale and background research

Adolescence is a time of critical change both physically and psychologically, making it a very vulnerable time in one's life (Vijayakumar, et al., 2018). By the time children reach adolescence they are often established internet users (Gross, 2004) and research shows that children who have access to the internet at a younger age are at risk of being exposed to sexualised media and other types of inappropriate content (Council on Communications and Media, & MBE, 2016). Sexual interest is beginning to emerge during adolescence together with sensation seeking, impulsivity, and identity formation, increasing interest in risk taking and pleasure-seeking behaviours (Romer, et al., 2017). These emergent desires and interests are often explored on the internet (Baumgartner et al., 2012) generating the possibility of

encountering inappropriate content or having negative experiences (Atkinson, & Newton, 2010). Inappropriate content is readily available on the internet with adolescents often coming across it either by mistake or intentionally (Memon, Sharma, Mohite, & Jain, 2018; Mitchell et al., 2007). Some studies quote up to 87% of adolescents intentionally seeking out inappropriate content (Ybarra, & Mitchell, 2005) and this can influence adolescent perceptions and behaviours. In particular, viewing sexualised media risks desensitisation to the content (Daneback et al., 2018; Peter & Valkenburg, 2007), increases problematic sexual behaviours (Svedin, Åkerman, & Priebe, 2011), and distorts attitudes towards sex (Foubert, Brosi, & Bannon, 2011). Furthermore, continued engagement with this material can have long term effects on sexually permissive attitudes (Doornwaard, Bickham, Rich, ter Bogt, & van den Eijnden, 2015). Therefore, given the significant harms that can develop from viewing sexually explicit material, Study three part one aimed to address this by examining exposure to sexualised material online and the effects this has on offline sexual attitudes and behaviours.

Study three-part one development

Study three part one aimed to bring together risk and protective factors identified in the literature underpinned by adolescent's responses and informed by the findings of study one and two. The ecological systems model (Bronfrenbrenner, 1979) argues that each system interacts with each other to shape an individual's development, beliefs, and behaviours, therefore it is important to assess several risk and protective factors to gain a more accurate understanding. As previously discussed, adolescents spend substantial time online and rely heavily on outside influences rather than trusted sources such as school or family, which can result in peer pressured decisions and thinking. Therefore, study three part one examined social media and internet exposure to gain an understanding of adolescent's exposure to sexualised media and the outcomes of this rather than the experiences of adolescents who

exhibit compulsions or intentionally seek out explicit content. Numerous studies investigate problematic internet use (some studies are discussed in this thesis), but those young people are not representative of the population. Further, there are already specialised and intensive interventions for this population, whereas the present thesis research aimed to develop interventions that reduce the risk of young people getting to that point. Understanding adolescents as a group and understanding their collective views, experiences, and behaviours is the focus of study three part one as the researcher seeks to understand how these common adolescent experiences can influence sexual attitudes and behaviours and why.

A survey was developed to examine the identified exposure, risk and protective factors, and outcomes. Within the survey there were nine constructs, each with several items that related to the construct. The nine constructs were decided upon from findings from study one and the views of adolescents from study two. For example, study one found that monitoring level and family relationships impacted sexual attitudes and behaviours in adolescents. Similarly, study two demonstrated the lack of formal education on topics such as sexual behaviours and internet safety. In addition, the literature review for this study confirmed that the constructs chosen were relevant, and information on the papers identified in the literature review are outlined in the survey constructs section below. Each construct was developed using existing literature which aided in question formation and also construct development (see table 4.1). The papers were read to gain an understanding of what previous work had been done and how this had been addressed. The papers outlined in table 4.1 were the foundation for building questions in each construct and they influenced how these were formed. For example, each construct had a number of papers that researched the construct topic (i.e., monitoring level) in relation to sexual attitudes and behaviours, and the questions were an accumulation of the insight from the papers and also the previous work already conducted for this thesis (e.g., the views of adolescents taken in study 2). Standardised

measures were not used because the researcher did not want to have a mix of standardised and non-standardised measures as this allowed for more flexibility in the research design of the survey. Items where either positively or negatively worded and both risk and protective factors were examined. The survey also included questions on age, gender, sexuality, and social media use. Each construct is discussed in detail below and includes discussion about each paper that influenced the questions in the constructs.

Table 4.1 – *Papers that were used to aid in the development of each construct.*

Construct	Papers
Sexual behaviours offline	Owens, Behun, Manning, & Reid (2012), Traffic Light Tool (wirralsafeguarding.co.uk).
Sexual attitudes and beliefs	Wood & Wheatcroft (2020), Owens, Behun, Manning, & Reid (2012), Traffic Light Tool (wirralsafeguarding.co.uk).
Family relationships	Bronfrenbrenner (1979), Garcia-Saiz, Sarda & Pletta et al. (2021), Markham, Tortolero, Escobar-Chaves, Parcel, Harrist, & Addy (2003), Kvardova et al. (2021).
Monitoring level	Nikken & de Graaf (2013), Shin & Ismail (2014), Wisniewski Jia, Xu, Rosson, & Carroll (2015).
Secrecy	Garcia-Saiz, Sarda, Pletta, Reisner, & Katz-Wise (2021), Wisniewski Jia, Xu, Rosson, & Carroll (2015), Shin & Ismail (2014), Steinfeld (2021).
Sex, relationship and internet safety education	Roy (2020), Spano (2004), Wood & Wheatcroft (2020).
Sexualised media exposure (self)	Daniels, & Zurbriggen (2016), Lo & Wei (2005), Doornwaard, Bickham, Rich, ter Bogt, & van den Eijnden (2015), Brown & L'Engle (2009), Smith (2013), Bonino, Ciairano, Rabaglietti and Cattelino (2006), Owens, Behun, Manning, & Reid (2012), Alexandraki, Stavropoulos, Anderson, Latifi, & Gomez (2018), Gagnon & Simon (1973).
Sexualised media exposure (friends)	Symons, Ponnet, Walrave, & Heirman (2018), Van Ouytsel, Walrave, Lu, Temple, & Ponnet (2018), Maheux, Evans,

	Widman, Nesi, Prinstein, & Choukas-Bradley (2020), Wood & Wheatcroft (2020), Bronfrenbrenner (1979).
Mental health	Owens, Behun, Manning, & Reid (2012), Mori, Temple, Browne, & Madigan (2019), Kheswa & Notole (2014).

Survey constructs

Sexual behaviours offline – In a comprehensive review of the literature, Owens, Behun, Manning, and Reid (2012) found that adolescents' increased viewing of pornography correlated with higher levels of sexually aggressive behaviour and earlier sexual experimentation. Owens et al. (2012) indicated that viewing sexually explicit material does have an impact on sexual behaviour. Therefore, this construct was incorporated into the study and included risky sexual behaviours and not necessarily harmful sexual behaviours. If the adolescents are presenting with harmful sexual behaviours, they may require more specialised interventions beyond the scope of the current thesis. To distinguish between the behaviours, harmful and risky sexual behaviours for this age group were determined by the Brook Sexual Behaviours Traffic Light Tool (Traffic-Light-Tool.pdf (wirralsafeguarding.co.uk)).

Sexual attitudes and beliefs – Items in this construct were based on the opinions of adolescent obtained in study two. In addition, Wood and Wheatcroft's (2020) study indicated that risk taking online increases when adolescents have limited knowledge and education on internet safety which can impact beliefs, for example having limited knowledge on grooming therefore believing it is appropriate to date someone much older. Similarly, Owens et al.'s (2012) study identified that adolescents' increased viewing of pornography can increase unrealistic sexual values and beliefs in addition to permissive sexual attitudes and sexual preoccupation. Furthermore, the Brook Sexual Behaviours Traffic Light Tool was also used to inform this construct by adapting the risky sexual behaviours into attitudes (e.g., 'accessing

exploitative or violent pornography' was adapted to 'violent or aggressive pornography excites me').

Family relationships – The microsystem within the ecological systems theory (Bronfrenbrenner, 1979) recognises the influence of a child's most intimate world (i.e., the family). Therefore, this construct was developed to consider whether strong family relationships act as a protective factor or as a collective protective factor with the influence of monitoring level and secrecy. It is also evident in much of the literature that strong family relationships act as protective factor for risk taking. For example, Garcia-Saiz et al. (2021) report that improved family satisfaction acted as a protective factor for sexual risk taking and, Markham et al. (2003) found that family connectedness reduced sexual risk taking. Moreover, Kvardova et al. (2021) found that good family relationships acted as a protective factor for the effects of exposure to sexualised media.

Monitoring level – The literature on monitoring indicates how restrictive parenting can negatively influence internet use and sexual attitudes and behaviours. For example, Nikken and de Graaf (2013) found that parental restrictive mediation of an adolescent's internet use was not followed by reduced sexual experience and less permissive attitudes, suggesting that adolescents may oppose the restrictive methods of parents and make their own choices regardless. Shin and Ismail (2014) found that adolescents who received higher levels of parental restrictive mediation engaged in greater risk-taking behaviour online, compared to parental active mediation which reduced contact risks (i.e., meeting strangers), but not privacy risks (i.e., sharing personal information online). Wisniewski et al. (2015) report that direct intervention of an adolescent's online activity had suppressive effects. Monitoring level is, therefore, a complex construct because different levels or types of monitoring can have different impacts on adolescents, including protective effects or

increasing risk taking. The literature shows that active monitoring is typically the most effective approach, paired with openness and strong family relationships.

Secrecy – Following on from parental monitoring, Garcia-Saiz et al. (2021) identified high levels of family communication as protective factors for sexual risk taking. In addition, Wisniewski et al. (2015) found that parental active mediation which included open dialogue, communication with their child, and interest and involvement in their online world had an empowering effect. Adolescents did not need to be secretive with their parents and were able to take control of their online interactions, experience lower levels of risk taking, and actively form coping strategies. This is in line with Shin and Ismail (2014), discussed above. Therefore, restrictive parenting is more effective when the parents maintain an open dialogue with their child. Further, Steinfeld (2021) found that a mixture of active and restrictive mediation, that is, some level of monitoring or restriction combined with an open dialogue and affording some level of autonomy to the adolescent is the most effective way to reduce risk consequences but not necessarily to reduce risk taking.

Sex relationship, and internet education – Roy (2020) conducted a review of the literature, finding that there is a growing sense of sexual uncertainty due to a conflict between sexual beliefs taught by family and communicated by pornography. Adolescents are moving on from the primary care of family and school and begin to want more privacy and independence while preparing to transition into adulthood, gaining influence from outside factors such as their peers (Spano, 2004). Wood and Wheatcroft (2020) report that a lack of education, knowledge, and understanding increases risk taking which in turn increases vulnerabilities faced on the internet. Participant's accounts detailed the lack of understanding around topics such as online grooming and internet risks and indicated that they would like to see more information on these topics. In addition, study two found that internet safety and sex and relationship education is inconsistent in quality, depth, and frequency. Adolescents are

less likely to listen to educators in school and more likely to listen to peers and social media. A benefit of having retrospective recall in the current study was that participants had completed high school and could answer questions about education throughout high school which gave a more accurate picture. Whereas participants in study two were in years nine and ten and had not completed high school.

Sexualised media exposure (self) – A substantial body of research has examined exposure to sexualised media, including perceptions of sexting behaviours (Daniels, & Zurbriggen, 2016), pornography viewing and sexual attitudes and behaviours (Lo & Wei 2005). Furthermore, research suggests this is a normal part of adolescent development (Doornwaard et al., 2015; Brown & L'Engle 2009; Smith, 2013). Though commonplace, research often indicates that exposure to sexual media online can affect the formation of healthy sexual attitudes and behaviours. In their study, Bonino, Ciairano, Rabaglietti and Cattelino (2006) found a significant correlation between pornography use and sexual violence among a sample of 14 to 19-year-old males and females. Similarly, in a review of the literature, Owens et al. (2012) found that adolescents who view pornography online, generally have unrealistic sexual values and beliefs and engage with pornography that depicts violent or sexually aggressive behaviour. Pornography use has significantly increased in adolescents because it is widely available online (Alexandraki, Stavropoulos, Anderson, Latifi, & Gomez, 2018). In general, adolescent populations are predominantly exposed through sexting, online pornography, grooming attempts, friends and acquaintances, and social media posts. Study two found that the more adolescents engage with this content, the more they are sent it on social media due to the algorithms in place. Desensitisation and increased desire to engage with this material is also a consequence of the amount of sexualised media that is available on the internet. According to desensitisation theory repeated exposure to sexualised material becomes 'the norm' and can often be perceived as

real. Similarly sexual script theory (Gagnon & Simon, 1973) argues that sexual scripts are built from sexual knowledge originating from an individual's experiences, what they are exposed to, and outside influences such as family and friends. This suggests that exposure to sexualised material will influence a person's sexual script and in turn, influence their sexual attitudes and behaviours.

Sexualised media exposure (friends) - Engaging in sexually explicit material is often perceived as the norm among adolescents (Symons, Ponnet, Walrave, & Heirman, 2018) who often believe that their peers perceive this behaviour as positive (Van Ouytsel, Walrave, Lu, Temple, & Ponnet, 2018). These perceptions can encourage adolescents to begin participating in inappropriate behaviour whether that is watching pornography or sending indecent images of themselves (Maheux, Evans, Widman, Nesi, Prinstein, & Choukas-Bradley, 2020). To determine whether outcomes were influenced by peer pressure (e.g., all their friends do it, so they think it's the norm, or because of they feel pressured to conform), this construct was developed using findings from study one that identified peer acceptance as a motivating factor for online risk taking, and study two which indicated that much of the exposure the participants talked about was with friends/peers or sent to them by their friends. They also base a lot of their knowledge on how their friends behave or what they experience (Wood & Wheatcroft, 2020). For example, in the microsystem of the ecological systems model (Bronfrenbrenner, 1979) peer influence plays a part in shaping development and influencing beliefs.

Mental health – Being exposed to sexualised material, engaging in risky sexual behaviour, and having unhealthy sexual beliefs can affect mental health. Owens et al. (2012) found that girls report feeling physically inferior to women featured in pornography, whilst boys are concerned with whether they can perform at the same levels as the men in pornographic media. Their review also indicates that adolescents who view pornography

experience decreased social integration, increases in conduct problems, increased delinquent behaviour, depressive symptoms, and decreased emotional bonding with caregivers. Exposure to sexualised material can not only affect sexual attitudes and behaviours but can also have negative implications for mental health (Mori, Temple, Browne, & Madigan, 2019) and have negative effects on psychological, emotional, and cognitive development (Kheswa & Notole, 2014).

Study three part one

Taking all these constructs into account will provide a comprehensive insight into the effect that exposure to sexualised media has on adolescents' sexual attitudes and behaviours. This expands on previous research that examines one or two factors only or focuses on sexual behaviours or sexual attitudes but does not consider potential protective factors. The researcher anticipated that some level of monitoring, strong family relationships, open dialogue and good mental health will be protective factors. In addition to effective sex and relationship education and internet safety education. It is crucial to focus research in this area to better understand the interactions of all factors to enable practitioners to better protect adolescents and identify early risk warnings to intervene quickly and effectively.

In this study exposure to sexualised material in adolescents and other risk factors were examined to understand what impact this had on the development of unhealthy sexual attitudes and risky sexual behaviours. Participants were aged between 18 and 21 and were recruited from a University in Northwest England. Data collection was in the form of online surveys and was analysed using linear regressions and ANOVAs. The dependant variables are sexual attitudes, and sexual behaviours, and the independent variables are exposure to sexualised material, friends' exposure to sexualised material, mental health, sex education, family relationships, monitoring level, secrecy, and social media use. The research hypotheses were; 1) exposure to sexualised material will increase risky sexual behaviours and

unhealthy sexual attitudes and beliefs, 2) sex/relationship and internet safety education, and family support will protect against the development of unhealthy sexual attitudes and beliefs, and risky sexual behaviours, 3) high social media use will increase engagement with sexualised material online, 4) increased exposure to sexualised material and engaging with risky sexual behaviours will have a negative impact on mental health.

Method

A quantitative approach was adopted for study three part one in order to examine whether the findings of study two could also be reproduced on a larger scale among adolescents. As a result of recruitment difficulties, young adults participated in this research. Through the use of the quantitative method, the researcher was able to identify specific causal relationships between sexualised material exposure, sexual attitudes, and sexual behaviours. Moreover, quantitative approaches are capable of determining whether the effects are statistically significant, which is not possible in qualitative studies. A retrospective questionnaire was administered to participants in this study. By doing so, the researcher was able to explore sex relationships and internet education throughout high school. Further, participants were provided with the opportunity to reflect on their experiences with sexualised material during adolescence. Additionally, they could reflect on their sexual attitudes and behaviours. A significant increase in unhealthy sexual attitudes and behaviours in high school was found as a result of exposure to sexualised material. Considering the significance of this effect, the researcher wanted to determine whether it remained long-term.

Study two explored adolescents' perceptions of their internet experiences including the prevalence of sexualised material online using semi-structured interviews. Qualitative data revealed that adolescents' knowledge on risk and sexualised material was developed mainly from their friend's experiences and their own experiences online. This formed the basis of study three part one, which was conducted to explore whether the amount of

sexualised material adolescents are exposed to have any influence on their sexual attitudes and subsequent sexual behaviour. The researcher also investigated if sex education, perceptions of friend's experiences and other factors such as mental health, family relationships and social media use had any influence on sexual attitudes and behaviours. A quantitative research approach was taken because it looks for causal relationships between variables whereas qualitative research looks for in depth descriptions from the perspectives of the participants based on certain phenomenon's (Yilmaz, 2013). The advantage of quantitative research lies in its ability to measure and analyse data in a systematic manner. It also allows the researcher to draw statistically valid conclusions, as the data can be subjected to statistical tests. Quantitative research is also more objective than qualitative research, since it relies on numerical data that can be collected consistently and analysed objectively.

Study 3 part 1 aimed to gain information from a general population therefore a large number of participants are required, to gain statistically significant results that are representative of the target group. By using a large sample size, the researcher assessed the causal relationships between exposure to sexualised material and sexual attitudes and behaviours in adolescents. The benefits of using a larger sample size include increased accuracy, reliability, and power of the results. It also increases the validity of the study, as it allows the researcher to capture a more representative sample of the population and to better generalize the findings to the population. Furthermore, it reduces the risk of bias and enables the researcher to detect subtle effects that may not have been detected using a smaller sample size. This is especially important when researching sensitive topics such as adolescent sexual development.

The survey used in study three part one will also form the basis for a risk assessment tool, thus requiring a quantitative approach. To ensure the accuracy of the tool, it is important that the survey is validated. The quantitative analysis of the survey data will allow us to

identify any correlations between risk factors and outcomes. This information will then be used to create a reliable and effective risk assessment tool. The quantitative data will provide an objective evaluation of the survey's reliability and effectiveness in predicting outcomes. This data will be used to inform the design of the risk assessment tool, ensuring that it is as accurate and unbiased as possible.

Epistemology requires this type of research to be conducted with 13–17-year-olds as this is the age when they are taking the most risks, however the age range was altered (see limitations section in chapter 6). The survey was altered to include two time points, time point one asked participant to think back to high school and time point two asked participants to answer in the present day (analysed in study three part two). Participants were therefore asked to complete the survey retrospectively (i.e., thinking back to high school). However, the researcher intended to use this survey in the future to inform evidence led risk assessment tool for use with adolescents. The survey was piloted among 13–17-year-olds to assess its validity. Before the main study began, the researcher was able to identify any potential problems with the survey, such as ambiguous questions or confusion over instructions. Identifying any potential ethical or practical issues allowed the researcher to refine the survey and ensure that the questions were appropriate for the age group. Through the pilot study, researchers tested the suitability of the survey for adolescents. Furthermore, the pilot study provided researchers with the opportunity to refine the survey to ensure the data collected was accurate and reliable. It was determined that the survey was suitable for adolescents based on the results of the pilot study. This will result in accurate data being captured for the risk assessment tool.

Pilot Study

Prior to conducting Study three part one, the researcher conducted a pilot study to review all participant facing documentation. The pilot study ensured that the information

sheets and consent forms were easily understandable and clear, and that the questions were easy to understand and easy to respond to. The pilot study provided feedback on the survey questions for example, would you feel comfortable answering the questions? and, are there any answers you would give that aren't included in the options available? The researcher allowed the participants to provide any other feedback that they felt was necessary. The study was piloted with three groups totalling 21 participants, an LGBT support group (aged 13-19), a 13–15-year-old group and a 16+ age group. The groups reviewed the documentation and the researcher read the materials out. After each document, questions were asked to them as a group, and the researcher recorded their answers.

Participants were recruited for the focus groups via emails sent to caregivers (see appendix 14) of young people who were members of youth groups in Wirral. Information was provided on the scope and purpose of the focus group, advising them on what day the focus group would take place. They were advised to withdraw their child from that session if they did not want their child to participate. The participants were also informed about the focus group prior to it taking place. They were given an information sheet (see appendix 12), and the focus group was discussed with them. They had the opportunity to ask any questions, and if they wanted to take part, they were asked to sign a consent form (see appendix 13). The focus study then commenced on the advised date and time. An interview schedule was used (See appendix 15) and examples of questions that were asked on each document were, 1) Is the information sheet, consent form and questions easy to understand and clear? 2) How easy is it to respond to the questions? 3) Are there any answers you would give that aren't included in the survey? and 4) Would you feel comfortable answering the questions? Each focus group lasted 30-60 minutes and during the session, the researcher made notes on a note pad and on the documents. A summary of the findings was written and was used to revise the documentation and the survey (See Appendix 16).

Recommendations from the focus groups included making consent words bold in the documentation, add more genders and sexualities, and rewording some of the statements in the survey. In general, participants thought that the material was easy to grasp, concise, and clear. All suggestions were taken on board and implemented before an amendment was requested to the ethics board for the revised documentation. Ethical approval (Ref: 9784) for this study was granted by the Full Ethics Committee Board at the University of Liverpool (see appendix 11).

Participants

Participants were recruited through the University of Liverpool Experimental Participant Requirement (EPR) system. The researcher had no influence over what studies the students choose and did not have any contact with the students. In total 395 participants took part in the study. In the survey data there were 61 responses with a large amount of missing data, therefore these responses were deleted listwise, resulting in 334 participants. The age range of participants was 18-21 years (M =18.54, SD = 0.07). Participants were mainly cis-female (87%) followed by cis-male (12%). Those who identified as under the non-binary umbrella and those who chose 'other' included fewer than 1% of responses. There were no responses for trans-male or trans-female. Seventy two percent of participants identified as heterosexual/straight, 19% identified as bisexual, 2% as lesbian or pansexual and fewer than 1% of participants identified as gay, a-sexual, prefer not to say, or other.

Materials

The survey was created and administered on Qualtrics. Constructs within the survey (see survey section below) were developed based on the first two studies in this thesis and previous literature (discussed in the introduction). The survey was revised based on the findings of the aforementioned pilot study. The first page of the survey contained the participant information sheet. After participants had read this, they were taken to the consent

form page where they were asked if they understood what was expected of them and they were asked to tick several boxes to confirm that they understood and that they consented. Participants were informed that if they answered *no* to any of the questions they should not participate. Following the consent page was the beginning of the survey. The first section of the survey asked questions such as age, gender, and sexuality. The second section asked participants to reflect back to when they were in high school, and they were presented with this statement *"Please answer the following questions thinking back to when you were in high school, approximately aged 13-16."* Questions within this section started with statements such as *"Thinking back to high school, read each statement and pick the response that is closest to how you feel."* Similarly for the third section which related to the present day, participants were presented with this statement; *"The next set of questions relate to how you think and feel now."* Questions within the present-day sections began with statements such as *"These statements relate to your current sexual behaviours and relationships."* (see appendix 17).

When the participants had finished answering the survey, they were taken to a debrief page that thanked them and gave them helpful information if they felt that they needed some support (see appendix 17).

Survey

The survey was separated into three sections (see appendix 17). Section one (demographic questions) contained questions on age (18, 19, 20, 21 years), gender identity (cis-female [female gender at birth], cis-male [male gender at birth], trans-female, trans-male, under the non-binary umbrella [e.g., gender fluid], prefer not to say) and sexuality (heterosexual/straight, gay, lesbian, bisexual, pansexual, a-sexual, questioning, prefer not to say, other). A question on social media was asked at the start of section two and three (i.e., How often do you go on social media?) and participants could answer as, 1 – never, 2 – less

than monthly, 3 – monthly, 4 – weekly, and 5 – daily. Section two asked participants to give answers to items reflecting on when they were 13-15 years old, therefore answering the questions retrospectively. The item wording for section two was past tense and it had nine constructs. Section three had six constructs, and items were worded in the present tense. Section three had less constructs than section two because it was examining adulthood therefore monitoring level, secrecy, and sex relationship and internet education were not included.

A total of forty-two questions were positively worded throughout the survey therefore being reversed scored in analysis. Including positively and negatively worded questions can prevent socially desirable answers and acquiescence from participants. According to Ross and Mirowsky (1984), participants give socially desirable responses to normatively charged questions and acquiescence responses to neutral questions. When all items in a questionnaire are in the same direction, acquiescence bias occurs. However, some researchers argue that questions phrased in different directions (i.e., positively, and negatively worded questions) require different cognitive processes which can cause issues for participants switching between these cognitive methods, therefore increasing mistakes (Sauro & Lewis, 2011; Suárez Álvarez, Pedrosa, Lozano & García Cueto, et al., 2018). Although, participants pay more attention to the questions if they are required to answer in different directions (DeCoster & Claypool, 2004). Therefore, limiting socially desirable answering and acquiescence bias because the participants must concentrate. If questions where all worded as positive, participants may think that they must answer in that way.

Sexual behaviours offline

This construct contained ten items. Examples of statements in this section include, *I enjoy having sex, I did things that I have seen in pornography,* and *I have contracted a sexually transmitted infection (STI).* Participants answered on a 5-point scale ranging from 1

– strongly disagree to 5 – strongly agree. High scores indicated increased risky sexual behaviours. Two items were reverse scored.

Sexual attitudes and beliefs

This construct contained twenty-three items. Examples of statements in this section include, *dating an adult is ok, loads of people send nudes it's just normal,* and *sex in pornography is not like in real life.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated increased unhealthy sexual attitudes and beliefs. Six items were reverse scored.

Family relationships

This construct contained three items. Examples of statements in this section include, *I had a good relationship with my parent/carer, I had a good relationship with at least one member of my family,* and *I felt that I could talk to my parent/carer about my problems.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated stronger family relationships. All items were reverse scored.

Monitoring level

This construct contained five items. Examples of statements in this section include, *my parent/carer monitored my social media use, I had restrictions on my devices,* and *I felt that my parent/carer was strict.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated higher parental monitoring. None of the items were reverse scored.

Secrecy

This construct contained six items. Examples of statements in this section include, *I kept secrets from my parent/carer if I thought I would get into trouble, I did not want my parent/carer to know what I got up to with my friends,* and *if my friends were doing something risky, I would tell an adult.* Participants answered on a 5-point scale ranging from

1 – strongly disagree to 5 – strongly agree. High scores indicated greater levels of secrecy towards caregivers. One of the items were reverse scored.

Sex relationship and internet education

This construct contained ten items. Examples of statements in this section include, *my school delivered online safety education once or more a year, I do not feel that I knew much about sex and relationships when I was in high school,* and *I learnt about having sex from pornography.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated poor sex relationship and internet safety education delivered in school. Five of the items were reverse scored.

Sexualised material exposure (self)

This construct contained sixteen items. Examples of statements in this section include, *I found pornography easily accessible on social media, I told an adult if I was sent a nude,* and *someone tried to talk sexually with me on the internet.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated greater levels of sexualised material exposure. Two of the items were reverse scored.

Sexualised material exposure (friends)

This construct contained five items. Examples of statements in this section include, *my friends talked sexually on the internet, my friends often got sent nudes,* and *my friends sent people nudes of themselves.* Participants answered on a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated greater levels of sexualised material exposure in friends. None of the items were reverse scored.

Mental health

This construct contained twelve items. Examples of statements in this section include, *I had the confidence to say no to something I didn't want to do, I used lots of filters on social media to make myself look better,* and *I worried about lots of things.* Participants answered on

a 5-point scale ranging from 1 – strongly disagree to 5 – strongly agree. High scores indicated poor mental health. Five of the items were reverse scored.

Data analysis

The data in this study was reviewed (reliability measures and frequencies) and then analysed using Pearsons correlations, three linear regressions, and a one-way ANOVA. Data analysis began by testing the reliability of each construct (DeCoster & Claypool, 2004). The construct can be considered reliable if the items within it are related and participants answer the items similarly. Cronbach Alphas were; family relationships: $\alpha = .82$; monitoring level: $\alpha = .79$; secrecy: $\alpha = .74$; sex, relationship and internet safety education: $\alpha = .66$; sexualised material exposure (self): $\alpha = .88$; sexualised material exposure (friends): $\alpha = .79$; sexual behaviours offline: $\alpha = .77$; sexual attitudes and beliefs: $\alpha = .68$; Mental health: $\alpha = .77$; Frequencies were conducted to check for missing data and each question had less than 10% missing data. All the data was normally distributed (see appendix 18-21).

Results

Pearsons correlations were conducted to look for correlations between social media, family relationships, monitoring level, secrecy, sex relationship and internet education, exposure to sexualised material, friends' exposure to sexualised material, mental health and sexual behaviours and sexual attitudes in high school. Sexual behaviours revealed a significant positive correlation with exposure to sexualised material, friends' exposure to sexualised media, and sexual attitudes and beliefs. It also revealed a significant negative correlation with mental health. Sexual attitudes and beliefs revealed significant positive correlations with secrecy, education, exposure to sexualised material, mental health, sexual behaviours offline, and friends' exposure to sexualised media. These data are shown in table 4.2 There was no evidence of multicollinearity (all VIF < 0.8). During high school 75% of participants reported that they had kisses someone, 56% reported that they had engaged in

sexual activity with someone and 44% reported that they had engaged in sexual intercourse with someone during high school.

Table 4.2 – Inter-correlations and descriptive statistics for: social media, family relationships, monitoring level, Secrecy, sex relationship and internet education, exposure to sexualised material, friends' exposure to sexualised material, mental health, sexual behaviours, and sexual attitudes.

	1	2	3	4	5	6	7	8	9	10
1. SBO	-	.24**	.57**	.27**	-.03	-.06	-.01	.02	-.02	-.15**
2. SAB		-	.46**	.36**	.07	.06	-.00	.30**	.25**	.32**
3. ESM			-	.49**	.19**	.08	.01	.38**	.20**	.05
4. ESMF				-	.10	.00	.05	.14**	.09	.15**
5. SM					-	-.06	.04	.16**	.02	.04
6. FR						-	-.00	.40**	.15**	.35**
7. ML							-	-.00	.01	.02
8. SEC								-	.22**	.28**
9. SRIE									-	.19**
10. MH										-
M	26.80	60.78	49.66	16.75	4.88	5.55	18.47	20.12	29.80	36.06
SD	6.74	9.12	12.81	4.78	.44	2.80	4.63	4.83	5.91	7.92

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Sexual behaviours offline = SBO, sexual attitudes and beliefs = SAB, sex relationship and internet education = SRIE, exposure to sexualised media = ESM, friends' exposure to sexualised media = ESMF, family relationships = FR, monitoring level = ML, secrecy = SEC, mental health = MH, social media = SM.

Inferential statistics

Two regressions were conducted to investigate whether the predictor variables (i.e., social media, family relationships, monitoring level, Secrecy, sex relationship and internet education, exposure to sexualised material, friends' exposure to sexualised material, and mental health) were associated with sexual behaviours, attitudes, and beliefs in high school. The first regression model was conducted to investigate whether the predictor variables, were associated with sexual behaviours offline in adolescents during high school. The regression model predicted approximately 33% of the variance in offline sexual behaviours, $\Delta R^2 = .33$, $F(8, 299) = 20.03$, $p < .001$. Exposure to sexualised material was a significant positive predictor of sexual behaviours ($\beta = .61$, $p < .001$) such that those who report high exposure to sexualised material were more likely to report risky sexual behaviours. Mental health was a significant negative predictor of sexual behaviours ($\beta = -.10$, $p = .042$) such that those who report good mental health were more likely to report risky sexual behaviours. Social media use was a significant negative predictor of sexual behaviours ($\beta = -.12$, $p = .011$) such that those who report less social media use were more likely to report risky sexual behaviours. Secrecy towards caregivers was a significant negative predictor of sexual behaviours ($\beta = -.15$, $p = .006$) such that those who report less secrecy with caregivers were more likely to report risky sexual behaviours.

Table 4.3 – *Results of Linear Regression Analysis for sexual behaviours in high school*

Variables	Beta	*SE*	β	*p*
SM	-1.96	.77	-.12	.011
FR	-.09	.13	-.03	.464
ML	-.02	.06	-.01	.708

SEC	-.21	.07	-.15	.006
SRIE	-.10	.05	-.09	.061
ESM	.31	.03	.61	<.001
ESMF	.03	.07	.02	.612
MH	-.09	.04	-.10	.042

Note. * *p*<.05.

Sex relationship and internet education = SRIE, exposure to sexualised media = ESM, friends' exposure to sexualised media = ESMF, family relationships = FR, monitoring level = ML, secrecy = SEC, mental health = MH, social media = SM.

The second regression model was conducted to investigate whether social media, family relationships, monitoring level, Secrecy, sex relationship and internet education, exposure to sexualised material, friends' exposure to sexualised material and mental health were associated with sexual attitudes and beliefs in adolescents during high school. The regression model predicted approximately 33% of the variance in sexual attitudes and behaviours, ΔR^2 = .33, $F(8, 300)$ = 19.49, $p < .001$. Sex relationship and internet education was a significant positive predictor of sexual attitudes and beliefs such that those who report poor sex relationship and internet safety education were more likely to report unhealthy sexual attitudes and beliefs (β = .14, p = .003). Mental health was a significant positive predictor of sexual attitudes and beliefs such that who report poor mental health were more likely to report unhealthy sexual attitudes and beliefs (β = .26, $p < .001$). Exposure to sexualised media was a significant positive predictor of sexual attitudes and beliefs such that who report high exposure to sexualised media were more likely to report unhealthy sexual attitudes and beliefs (β = .32, $p < .001$). Friends' exposure to sexualised material was a significant positive predictor of sexual attitudes and beliefs such that who report that their

friends are exposed to greater amounts of sexualised material were more likely to report

unhealthy sexual attitudes and beliefs ($\beta = .13$, $p = .012$).

Table 4.4 – *Results of Linear Regression Analysis for sexual attitudes and beliefs in high*

school

Variables	Beta	*SE*	β	*p*
SM	-.39	1.07	-.01	.71
FR	-.25	.18	-.07	.165
ML	-.07	.09	-.03	.446
SEC	.18	.10	.09	.096
SRIE	.23	.07	.14	.003
ESM	.23	.04	.32	<.001
ESMF	.26	.10	.13	.012
MH	.31	.06	.26	<.001

*Note. * p<.05.*
Sex relationship and internet education = SRIE, exposure to sexualised media = ESM,
friends' exposure to sexualised media = ESMF, family relationships = FR, monitoring level =
ML, secrecy = SEC, mental health = MH, social media = SM.

A further regression was conducted to investigate whether exposure to sexualised

material predicted negative mental health outcomes in high school. The regression model

predicted approximately 0% of the variance in mental health during high school, $\Delta R^2 = .00$,

$F(1, 317) = .89$, $p = .35$. Sexualised material exposure was not associated with mental health

in high school ($\beta = .053$, $p = .35$).

Finally, an ANOVA was conducted to investigate whether social media use in high

school was associated with exposure to sexualised material. There was a significant main

effect of social media use on exposure to sexualised material, $F(3, 323) = 4.25$, $p = .006$. Post-hoc tests revealed, in general, that less time spent online is related to less exposure to sexual material. Sexualised material exposure was significantly lower for those who used the internet less than monthly compared to daily ($p = .021$). In addition, sexualised material exposure was significantly higher for those who used the internet daily compared to weekly ($p = .019$). There was no significant difference between using the internet monthly compared to less than monthly ($p = .443$), weekly ($p = .257$) or daily ($p = .134$).

Discussion

Study three part one investigated how exposure to sexualised material affects the development of offline sexual behaviours, attitudes, and beliefs in adolescents. In addition, study three part one examined the role of education, social media use, mental health, friends sexualised material exposure, family relationships, secrecy, and monitoring level, on sexual attitudes and behaviours.

Results indicated that risky sexual behaviours in high school increase if adolescents have good mental health, are not secretive with their caregivers, have low social media use and if they are exposed to lots of sexualised material. Further, unhealthy attitudes and beliefs in high school increase if adolescents have poor sex relationship and internet education, experience poor mental health and if themselves and their friends are exposed to lots of sexualised material. Furthermore, exposure to sexualised material increases if adolescents use social media daily and exposure decreased if they use the internet less than monthly. Sexualised material exposure did not have a direct influence on mental health.

This study was also interested in identifying factors that lowered risky sexual behaviours and unhealthy sexual attitudes and beliefs in adolescence. The study predicted that family relationships, monitoring level, secrecy, sex relationship and internet safety education, and mental health would be identified as protective factors. Results showed that

none of these factors reduced sexual behaviours or attitudes. These findings expand on previous research that suggests adolescents begin to move away from the influences of family and school in favour of other outside influences such as peers (Spano, 2004).

Indeed, some of the predicted protective factors were identified as risk factors. Good mental health and not being secretive with a caregiver were identified as risk factors for sexual behaviours indicating that if an adolescent had good mental health and was open with their caregiver, they engaged in riskier sexual behaviours. Adolescents who feel able to confide in their caregivers may experience better mental health than those who cannot confide in their caregivers because they are too strict or restrictive in their parenting style. This finding may be explained by looking at restrictive and active parenting styles. Parenting does not reduce risk fully, however restrictive parenting styles can have suppressive effects (Nikken & de Graaf, 2013; Shin and Ismail, 2014; Wisniewski et al., 2015) which can therefore impact negatively on mental health and increase secrecy towards a caregiver. Whereas active parenting styles show that caregivers who are actively involved in their child's internet world, employ some level of monitoring, allow them to take risks and empower them to build up resilience and coping strategies are most effective in reducing risk long term (Steinfeld, 2021; Wisniewski et al., 2015). However, it is important to note that even with positive mental health and openness with a caregiver, the adolescents are still engaging in risky sexual behaviours. Therefore, it is important not to overlook adolescents who are presenting with good mental health (who may appear less vulnerable), because they will still need some level of intervention to decrease their risk-taking behaviours.

In this study, poor mental health predicted unhealthy attitudes which was in line with existing literature. For example, findings from the studies of Van Ouytsel, Walrave, and Ponnet (2020), and Kheswa and Notole (2014) indicated that repeated exposure to sexualised media can impact negatively on mental health which increases the risk of having negative

experiences online and offline. In addition, Mori et al. (2019) study found that exposure to sexualised media impacts on mental health and in turn influences sexual attitudes and behaviours. Adolescents who have high levels of exposure often develop unhealthy attitudes because of the content they are viewing, for example, comparing their bodies or performance to pornography which in turn lowers mental health (Owens et al., 2012). In this study, exposure to sexualised material alone did not affect mental health but taken together, mental health, exposure to sexualised material (self & Friends) and education did affect sexual attitudes and beliefs.

Sex, relationship, and internet safety education only predicted unhealthy sexual attitudes and beliefs. Poor or inconsistent education increased the likelihood of unhealthy sexual attitudes and beliefs with no effect on sexual behaviours. Moreover, effective education had no effect on either of the outcomes (e.g., sexual attitudes and behaviours). Given that there is limited research on education, this is a novel finding. Roy (2020) and Spano (2004) alluded to a conflict between sexual beliefs taught by family and pornography with adolescents putting more weight on outside influences such as peers and social media. in addition, study two demonstrated that sex relationship and internet education in schools is poor or non-existent which appears to influence attitudes and behaviours because adolescents are finding this information elsewhere and not necessarily from trusted sources, as suggested by Wood and Wheatcroft (2020). In their study they found that there was limited education around internet dangers such as grooming which was evident in the accounts of the participants. This finding is noteworthy and demonstrates the importance of effective education in reducing unhealthy sexual attitudes. Although education was assumed to be a protective factor, there was no evidence of this. Other factors anticipated to be protective were, positive family relationships and certain types of internet monitoring however this study found no evidence to support the existing literature. The only protective factor

identified was that reduced social media use in adolescence decreased exposure to sexualised material. Using social media less often only protected adolescents from being exposed to sexualised material but had no protective impact on sexual attitudes or behaviours.

What is evident from the data is that exposure to sexualised material has a strong link between risky sexual behaviours, and unhealthy sexual attitudes and beliefs in adolescence. Indeed, sexualised media exposure of friends was indicative of increased unhealthy attitudes and beliefs, and friends' exposure also positively correlated with own exposure. Study one and two identified the strong influence that peers have on each other through peer pressure and the desire for peer acceptance, which can in turn, shape their beliefs. The notion that engaging with sexually explicit material is the norm (Symons et al., 2018) between peers and often perceived as a positive experience (Van Ouytsel et al., 2018) can influence behaviours and attitudes because adolescents may feel pressured to conform if they believe that everyone is engaging in such behaviour. Findings are consistent with previous research suggesting that adolescents who have high exposure to sexualised media develop distorted attitudes towards sex, display increased risky sexual behaviours, and become desensitised to the content they view (Daneback et al., 2018; Svedin et al., 2011; Foubert et al., 2011; Peter & Valkenburg, 2007).

The findings from study three part one demonstrates the persistent powerful influence that sexualised material has on adolescents with no identified protective factors. The more time adolescents spend online, the more likely they are to encounter sexualised material which then shapes their sexual behaviours and attitudes. Desensitisation occurs with repeated exposure (Daneback et al., 2018; Peter & Valkenburg, 2007) and may impact brain activity which is especially sensitive in the adolescent brain (Vijayakumar, et al., 2018), further reinforcing the behaviour (Romer et al., 2017). Focus therefore, needs to be on strengthening policy and legislation targeted at social media and technology companies to ensure this

content is reduced and replaced with positive messages emphasising healthy attitudes and behaviours. Adolescents are less likely to take on board messages from schools and family and focus more on their peers and what they encounter on social media. Adolescents may feel that they understand the risks associated with sexualised material and have the autonomy to make decisions about their own risk behaviours rather than listening to the risk messages given by family and professionals. Therefore, attention should focus on promoting positive messages delivered through social media as adolescents may be more responsive to this type of messaging rather than information on risks and dangers (which they already believe they are knowledgeable on).

In addition to expanding previous research, findings demonstrate an original contribution to knowledge. The study examined the relationship between exposure to sexualised media, sexual behaviours, and sexual attitudes and beliefs. Furthermore, examining factors that drive these behaviours and attitudes up or down, identifying risk and protective factors that increase or decrease the outcomes of exposure to sexualised media. In doing so, this study has provided a comprehensive overview of exposure to sexualised media and the impact this has on offline sexual behaviours, attitudes, and beliefs, whilst examining if education, family relationships and mental health can protect against this. The overall finding is that exposure to sexualised media negatively impacts sexual behaviours, attitudes, and beliefs, with no identified protective factors.

Limitations and conclusions

This study is not without its limitations. The original design of this study involved recruitment of participants aged 13-17 years, though recruitment proved difficult. The intended recruitment process was for schools to send emails to caregivers to ask for their permission for their child to take part in the study. However, a very small number of schools sent out emails with only a very limited number of participants responding and taking part.

Efforts were made to follow up recruitment with schools, but this did not result in additional schools sending out the information, despite having the backing of the local council and the manager of the local safeguarding board. This study was being conducted towards the end of the pandemic lockdown period with schools only just having fully returned to on-site teaching. Therefore, schools were working in an 'emergency mode' which meant that they had to prioritise their responsibilities as well as working with reduced staffing due to COVID sickness. Because this study is part of a PhD thesis, there are time constraints on research. Therefore, the researcher made the decision to redesign the study to include a retrospective section (e.g., high school) and a present-day section (e.g., early adulthood) and recruit participants from a University.

A further limitation of this approach was that participants were asked to think back to high school to answer a portion of the questions, which were arguably the most important questions given that the study was interested in adolescent experiences. The retrospective data could have been influenced by the way the participants think in the present day and may not have been as authentic as if they were answering in the moment. Although this was a limitation, it changed the scope of the study to include examining whether the effects of sexualised material on sexual behaviours attitudes and beliefs persisted into early adulthood (of which there is limited research). This then formed the following study (study three part two) discussed in the next chapter. Finally, there is a lot of literature that identifies gender and sexuality as risk factors (i.e., cis-females and identifying as LGBT+) for exposure to sexualised material and unhealthy sexual attitudes and behaviours, however this could not be examined. Most of the participants identified as cis-female (87%) and heterosexual (72%) therefore the likelihood of gaining reliable results was low.

In conclusion, these findings are noteworthy and have important implications for professionals going forward. Findings emphasise the weight that adolescents put on the social

media that they and their peers are exposed to compared to what they are taught formally in school or by caregivers. Future research should focus on the long-term effects of excessive sexualised material exposure on risky sexual behaviours and unhealthy sexual attitudes and beliefs, as well as the driving force for the relationship between exposure, behaviour, and attitudes. In addition, this study can be replicated with adolescents to gain a more authentic insight rather than retrospective reporting. Finally, interventions need to move away from formal education on the risks and dangers of internet use and focus more on positive messages, delivered in more nuanced ways to grab the attention of adolescents, and begin to affect change.

Chapter 5; Exposure to sexualised material in adolescence and the effect of this on offline sexual behaviours and attitudes, in early adulthood.

Introduction

In Study three part one, findings indicated that exposure to sexualised material has a significant impact on sexual attitudes and behaviour in adolescence. Sexual behaviour was significantly associated with mental health, secrecy, and social media use and sexual attitudes and beliefs were significantly associated with sex relationship and internet education, mental health, and friends' exposure to sexualised material. Further, exposure to sexualised material increased with more time spent on social media. Study three part one demonstrates the influence that sexualised material has on sexual attitudes and behaviours. In addition, the predicted protective factors did not have any impact on this relationship. Study three part one expanded on findings from study one and two that identified how peer influence, internet usage, education, and exposure to sexualised material influences sexual attitudes and behaviours. These studies have examined the effects of sexualised material exposure in adolescence. Study three part two (and this chapter more broadly) expands on these findings to examine whether the same effects are present in adulthood, that is whether exposure to sexualised material in adulthood (along with the other wider risk factors identified) influences sexual attitudes and behaviour. In addition, this chapter will consider whether the risk factors identified in adolescence have long-term effects on sexual attitudes and behaviour in adulthood.

Exposure to sexualised media in adulthood

Researching adults' risky sexual behaviour and unhealthy sexual attitudes and beliefs is very different from investigating the same topics in adolescents because the important outcomes and concerns differ. For example, it is not illegal for adults to consent to share sexually explicit images of themselves with others, but it is for adolescents (see,

https://learning.nspcc.org.uk/research-resources/briefings/sexting-advice-professionals),
therefore this may be considered a risky behaviour for adolescents but not for adults to
engage in. Similarly, meeting strangers in person who were first encountered on the internet
is a far greater concern for adolescents than for adults (see, Traffic-Light-Tool.pdf). Despite
these challenges, Study three part two investigates whether adults are influenced by the same
risk factors that are significant in adolescence. For example, whether exposure to sexualised
material in high school has an impact on sexual attitudes and behaviour in adulthood.

In a study by Sun, Bridges, Johnson, and Ezzell (2016) they argue that exposure to
pornography develops sexual scripts that shape sexual attitudes and behaviour, and the more
pornographic material is consumed, the more embedded the sexual scripts become. In their
study, they surveyed 487 men aged between 18 and 29 and found that greater consumption of
pornography increased the likelihood of the individual using those sexual scripts during
sexual activity. For example, those exposed to pornography were more likely to request
pornographic sexual acts and must imagine pornography to sustain arousal during sexual
activity. Negative inter-personal effects of pornography consumption were also evident
including worrying about their own sexual performance and poor body image. Sun et al.'s
(2016) study indicates how influential sexualised material can be on sexual beliefs.

Rodenhizer and Edwards (2019) reported findings consistent with Sun et al. (2016).
They examined the impact of sexually explicit media and sexually violent media on domestic
violent and sexual violent attitudes and behaviours in adolescents and emerging adults. They
concluded that exposure to sexually explicit media and sexually violent media was positively
associated with domestically violent and sexually violent attitudes, and actual or anticipated
domestic violence and sexually violent behaviour. In addition, they reported that men were
more influenced than women by sexually violent and sexually explicit media. In sexually
explicit media, men are commonly portrayed as dominant or as perpetrators whereas women

are portrayed as submissive or as victims. Often, males and females take on these roles in the sexual arena, for example some women find it difficult to say no to sexual intercourse with a man (Frith & Kitzinger, 2001) especially if they are already engaged in sexual activity. Indeed, previous research shows that gendered stereotypes in pornography can influence attitudes towards sex. For example, Bernstein, Warburton, Bussey and Sweller (2023) found that exposure to pornography was positively associated with stereotypical gendered attitudes and acceptance of problematic behaviour featured in pornographic material (i.e., sexual coercion). This pattern is evident not only for acceptance of gender roles but also for performance of sexual practices that feature in pornography. Harkness, Mullan and Blaszczynski (2015) conducted a systematic review examining the association between consumption of pornography and sexual risk behaviours in adults. They found that consumption of pornography was associated with greater incidence of unsafe sexual practices and number of sex partners. These studies demonstrate the influence that exposure to sexually explicit material has on an individual by embedding these sexual attitudes, which in turn influence offline sexual behaviour.

Long term impact of exposure to sexualised media

This chapter also considers whether the risk factors identified in adolescence influence important outcomes in adulthood (i.e., sexual attitudes and behaviour). Though a substantial body of research has investigated the impact of exposure to sexualised material on adolescents, limited research is available exploring the long-term effects of this exposure. Given the powerful influence that sexualised material has on sexual behaviours and attitudes in adolescence, it is expected that the impact of this will persist into adulthood. At present the few studies that investigate exposure to sexualised material online in adolescence and the impact of this on sexual behaviours, attitudes and beliefs in adulthood do not fully investigate

this relationship. Instead, they typically investigate variations of sexual behaviour and different perceptions. Some of these studies are outlined below.

Much of the work in this area has been conducted by Peter and Valkenburg. Their first study in 2008 examined sexually explicit internet material, sexual arousal, and sexual preoccupancy over a one-year time period. Participants ($N = 926$) aged between 13 and 20 provided data at three time points. Data were collected via online surveys that included questions on sexually explicit internet exposure (4-items), sexual preoccupancy (3-items), and sexual arousal (2-items). The same survey was used at each time point. Results indicated that overall, adolescents' exposure to sexualised internet media predicted sexual preoccupancy. However, sexual preoccupancy at time one did not increase adolescents' exposure to sexualised media at subsequent time points. In addition, they found that the influence of sexualised media exposure on sexual preoccupancy was mediated by adolescents' sexual arousal, with exposure to sexualised media increasing sexual arousal, which led to sexual preoccupancy. Although these results show that exposure to sexualised material has a long-term impact, this study lasted for one year only. Therefore, this research cannot establish the longer-term consequences of exposure to explicit material such as whether the effects of exposure to sexualised material in adolescence persists into adulthood. Further, the study did not investigate the effects of exposure on sexual behaviours.

One year later, Peter and Valkenburg (2009) examined the causal relationship between exposure to sexualised material and sexual satisfaction and the extent to which individual differences influenced this relationship. The study was conducted with 1052, 13–20-year-olds over a one-year period at three time points. Data were collected via online questionnaires containing sections on exposure to sexually explicit material (4-items), sexual satisfaction (2-items), sexual behaviours (7-items), and perceived peer norms (1-item). Overall, exposure to sexualised media reduced sexual satisfaction. Results also indicated that

lower sexual satisfaction at time two increased exposure to sexualised media at time three. Further, when examining individual differences, exposure to sexualised media had a negative effect on sexual satisfaction if the individual had limited sexual experience and if they perceived their peers to be sexually inexperienced. In their concluding remarks, the researchers acknowledged that longitudinal research should be conducted over longer periods to fully understand the persistent affects that exposure to sexualised material has on adolescent development into adulthood.

The final study discussed by Peter and Valkenburg (2011) investigated the influence of sexually explicit internet material on sexual risk behaviour. They examined whether exposure to sexually explicit media affects sexual risk behaviours, whether this differs for adolescents and adults, and if age or gender moderated the influence of sexualised media on sexual risk behaviours. They sent an online questionnaire to 1445 adolescents aged 12-17 and to 833 adults aged 18 and over ($M = 47.89$). The online questionnaire contained four questions assessing exposure to sexually explicit media and one question on risky sexual behaviour. The survey also included questions on sensation seeking, life satisfaction, attachment to friends, sexual orientation, relationship status, overall number of sex partners, and sexual risk behaviour of friends, to be included as control variables. Results indicated that exposure to sexually explicit media had a significant effect on risky sexual behaviours for adult men and not for adult women, or adolescents. This finding is not consistent with much of the available research on the topic that typically indicates that exposure to sexualised media in adolescents increases risky sexual behaviour significantly. Although the study attempts to understand the effects of sexual material exposure in adulthood, the comparison between adolescents and adults does not establish a persistent effect of exposure into adulthood. It also does not examine the affects that exposure of sexualised material has on sexual attitudes and beliefs, which are arguably the underlying cause of sexual behaviours.

In a longitudinal study, Baams, Overbeek, Dubas, Doornwaard, Rommes and Van Aken (2015) investigated whether the relationship between consumption of sexualised media and permissive sexual attitudes is strengthened when adolescents perceive sexualised media to be highly realistic. Offline surveys were distributed to 444 adolescents aged between 13 and 16 at three time points over 18 months. The survey contained three sections, sexualised media consumption (6-items), permissive sexual attitudes (11-items), and perceived realism (7-items). They reported that high levels of media exposure were associated with higher levels of permissive sexual attitudes, and that this increased over time. In addition, they concluded that male adolescents perceiving the content to be highly realistic consumed more sexual media and had more permissive sexual attitudes. This study assessed a range of media, including internet media, but only focussed on one sexual attitude (permissiveness) and did not investigate the effects on sexual behaviours. Moreover, the study only examined a time frame of 18 months and participants remained adolescents throughout the study, therefore the research cannot establish persistent affects into adulthood.

Lin, Liu, and Yi (2020) conducted a study to explore how risky sexual behaviour in emerging adulthood is affected by exposure to sexually explicit media in early adolescence. They conducted the research longitudinally over 10 time points starting when participants were aged 13 and finishing when they were aged 24. Participants completed surveys in their class except for in waves eight, nine and ten where they were interviewed at home. The survey included questions on exposure to sexually explicit media (websites, magazines, comic books, novels, films and other), sexual behaviour (early sexual debut, unsafe sex, and multiple sex partners), pubertal development, and a number of control variables (gender, paternal education level, maternal education level, monthly family income, family intactness, number of siblings, presence of older siblings, parental control, family cohesion, academic performance, self-rated health, depressive symptoms, romantic relationship, and school fixed

effect). Findings indicate that overall, exposure to sexualised media in adolescence was related to risky sexual behaviours. In addition, they found that overall, exposure to different types of sexualised media increased the risk of engaging in risky sexual behaviour in adult life. However, though the research asked about online sexual content, the questions did not cover social media and only 18% of participants stated that they used websites to access sexualised media. This may have been due to the study commencing in 2000 when the internet was less widely used for social purposes and social media use was less common. Therefore, it may not provide a true reflection of how exposure to sexualised material affects adolescents and young adults in current society. The study was also limited by the inclusion of questions on sexual behaviour but not sexual attitudes and beliefs.

Predicted landscape.

A growing concern for academics, professionals, and caregivers is how exposure to sexualised material will affect adolescents over time and without intervention in the future. It is already clear that exposure to sexualised material at a young age can have a negative impact on mental health and sexual development (Flood, 2009) and this appears to be similar in adults who consume sexualised media. One possible reason for this is that adolescents and adults often perceive the sexualised material as realistic if they view it frequently which can then distort their attitudes towards sex (Peter & Valkenburg, 2006b). These attitudes can become strongly embedded and acted upon in offline behaviour. This may reflect how the brain processes such sexualised media and the emotion arousing nature of the content (Crone & Konijn, 2018). This is especially pertinent for adolescents because the brain is much more sensitive in emotional responses and sensation seeking and less sensitive in cognitive control regions, which in turn can influence the perceived difference between fact and fiction. Moreover, sexualised material is especially likely to evoke emotions in adolescents because they are beginning to explore their sexuality and sexual desires.

It is evident that adolescent's sexual behaviours, attitudes and beliefs are influenced by their exposure to sexualised material, especially if the media is perceived to be realistic (Harvey, 2020; Peter & Valkenburg, 2010a; Stulhofer et al., 2011; Tan et al., 2022). The long-term effects of this further increases with repeated exposure which can cause desensitisation to the sexualised content (Daneback et al., 2018; Martellozzo et al., 2020). Based on the literature reviewed in this chapter, the researcher predicts that in the absence of intervention, adolescents are likely to display the following in five years' time.

1. **Increased risky sexual behaviour:** Continued exposure to sexualised material may increase risky sexual behaviours, such as unprotected sex or multiple sexual partners, which could result in a higher prevalence of sexually transmitted infections and unintended pregnancies.

2. **Distorted perceptions of sex and relationships:** Prolonged exposure to sexualised material may result in the development of unrealistic expectations about sex, relationships, and body image, which could lead to dissatisfaction, low self-esteem, and body image issues.

3. **Greater acceptance of sexual aggression and violence:** Exposure to sexualised material that depicts aggressive or violent sexual acts may contribute to a normalisation of such behaviours, potentially leading to an increase in sexually aggressive and violent sexual acts.

4. **Increased mental health issues:** The impact of sexualised material on mental health may lead to increased rates of depression, anxiety, and other mental health problems, as individuals struggle to cope with the pressures and expectations generated by this exposure.

Study 3 part 2

The potential outcomes outlined above emphasise the need for appropriate interventions and education to address the impact of sexualised material. However, to achieve this, further research must be conducted on this topic to inform the understanding of the consequences of exposure to sexualised material. Data obtained from the survey used in study three part one assessing adolescents' exposure to sexualised material online and their offline sexual behaviours, attitudes and beliefs was adapted for Study three part two. It will identify if adolescent experiences change over time by comparing their experiences to experiences in adulthood. In addition, study three part two examines the same variables from participants in high school (analysed in study three part one) and compared this to their sexual behaviours, attitudes, and beliefs in adulthood. These findings will show whether sexualised material exposure has a persistent effect. The research hypotheses were; 1) exposure to sexualised material in adulthood will increase risky sexual behaviours and unhealthy sexual attitudes and beliefs in adulthood, 2) sex/relationship and internet safety education, and family support in adolescence will protect against the development of unhealthy sexual attitudes and beliefs, and risky sexual behaviours in adulthood 3) high social media use will increase engagement with sexualised material online in adults 4) exposure to sexualised material in adolescence will increase risky sexual behaviours and unhealthy sexual attitudes in adulthood.

Method

Study three part two employed a quantitative approach and retrospective recall of past experiences in order to measure the long-term effects of exposure to sexualised material on sexual attitudes and behaviours. The research method used in study three part two was a survey-based questionnaire. Participants were asked questions about their exposure to sexualised material, as well as their attitudes and behaviours related to sex. The responses were then analysed to assess the long-term impact of exposure to sexualised material. To find

statistically significant results, the researcher used retrospective recall with the same sample from study three part one in order to determine the persistent effects of sexualised material on attitudes and behaviours among adolescents and adults to determine whether these effects are persistent. Retrospective recall is beneficial because it allowed the researchers to gain insight into the long-term effects of exposure to sexualised material. It also allowed the researcher to compare the data from study three part one with the data from study three part two to determine the persistent effects of sexualised material on attitudes and behaviours.

Causative links are assumed in the longitudinal perspective. The purpose of this type of research is to explore potential causal relationships between early life experiences and later life outcomes. Study three part two examined whether early exposure to sexualised media affected sexual behaviour and attitudes in young adults. Due to changing the sample age range, the survey was redesigned to consider longitudinal effects on behaviour and attitudes. A questionnaire is a good tool for tracking a population's attitudes and behaviours over time. In retrospective studies, questionnaires can be used to capture changes in attitudes and behaviours over time. Therefore, using survey responses from two time points, the researcher observed how sexual attitudes and behaviours have changed and how different experiences, such as sexualised media, may influence attitudes and behaviours. Study three part two found that young adults' sexual behaviour and attitudes are influenced by their exposure to sexualised material in adolescence. Thus, the study highlighted the importance of understanding the influences of various experiences during adolescence, such as sexualised media, to better comprehend the changes in sexual attitudes and behaviours in young adults.

Study three part two first explored the predictor variables (e.g., sexualised media exposure, peer influence, family relationships and social media) on the outcome variables (e.g., sexual attitudes and sexual behaviours) in adulthood and it found that sexual behaviours were influenced by exposure to sexualised material and sexual attitudes were influenced by

exposure to sexualised material, mental health, and social media. The study also examined whether there were differences in all variables over time. Results indicated that sexualised material exposure, perceptions of friends sexualised material exposure, sexual behaviours, sexual attitudes, and social media all increased in adulthood whilst family relationships and mental health decreased. Finally, the study examined the long-term impact of exposure to sexualised material. The results indicated that risky sexual behaviours and unhealthy attitudes in adulthood were influenced by greater exposure to sexualised material in adolescence. These findings suggest that early exposure to sexualised material persists into adulthood. This is because sexualised material can normalise such behaviours and attitudes, which can lead to long-term changes in the behaviour and attitudes of those exposed to it.

Study three part two follows on from study three part one to analyse a section of the survey that was not considered in the last chapter. Therefore, the participants, method and procedure are the same as study three part one. A brief outline of the method is provided below (for a more detailed process please see method section in Chapter 4).

Data analysis

Data were reviewed (reliability measures and frequencies) and then analysed using two Pearsons correlations, five linear regressions, a one-way ANOVA, and paired samples t-tests. Data analysis began by testing the reliability of each construct (DeCoster & Claypool, 2004). Cronbach Alpha scores were; family relationships: $\alpha = .79$; sexualised material exposure (self): $\alpha = .86$; sexualised material exposure (friends): $\alpha = .83$; sexual behaviours: $\alpha = .60$; sexual attitudes and beliefs: $\alpha = .57$; mental health: $\alpha = .76$. Frequencies were conducted to check for missing data and each question had less than 10% missing data. All data were normally distributed (see appendix 22-25).

Results

Pearsons correlations were conducted to identify correlations between sexual behaviours, sexual attitudes, social media, family relationships, sexual exposure, sexual exposure friends, mental health in early adulthood. These data are shown in table 5.1. Sexual behaviour was significantly positively correlated with sexual attitudes and beliefs, exposure to sexualised material, and friends' exposure to sexualised material. Sexual attitudes and beliefs were significantly positively correlated with sexual behaviours, exposure to sexualised material, friends' exposure to sexualised material, and mental health. There was no evidence of multicollinearity (all VIF < 0.8).

Table 5.1 – Inter-correlations and descriptive statistics for: sexual behaviours, sexual attitudes social media, family relationships, sexual exposure, sexual exposure friends, and mental health in adulthood.

	1	2	3	4	5	6	7
1. SBO	-	.28**	.62**	.33**	.06	-.01	-.22
2. SAB		-	.36**	.28**	-.10	.00	.24**
3. ESM			-	.52**	.10	-.03	.02
4. ESMF				-	.11*	-.01	.15**
5. SM					-	-.22*	-.55
6. FR						-	.21**
7. MH							-
M	30.37	62.23	53.85	17.96	4.95	4.68	30.20
SD	6.03	8.52	12.62	5.00	.33	2.37	7.35

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Sexual behaviours offline = SBO, sexual attitudes and beliefs = SAB, exposure to sexualised material = ESM, exposure to sexualised material friends = ESMF, family relationships = FR, mental health = MH, social media = SM.

Pearsons correlations were conducted to identify correlations between social media, family relationships, monitoring level, secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school and sexual behaviours and sexual attitudes in early adulthood. Sexual behaviour in adulthood was significantly positively correlated with sexual attitudes and beliefs, exposure to sexualised material, friends' exposure to sexualised material, and secrecy in high school. Sexual attitudes and beliefs in adulthood were significantly positive correlated with sexual behaviour, sex relationship and internet education, exposure to sexualised material, friends' exposure to sexualised material, and mental health in high school. These data are shown in table 5.2 There was no evidence of multicollinearity (all VIF < 0.8). During adulthood, 79% reported that they had engaged in sexual activity and 71% reported that they had engaged in sexual intercourse.

Table 5.2 – Inter-correlations and descriptive statistics for: social media, family relationships, monitoring level, secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school, and sexual behaviours and sexual attitudes in early adulthood.

	1	2	3	4	5	6	7	8	9	10
1. SBO	-	.28**	.54**	.32**	-.00	.00	.00	.13*	.08	-.07
2. SAB		-	.27**	.18**	-.01	-.02	-.03	.09	.17**	.11*
3. ESM			-	.49**	.19**	.08	.01	.38**	.20**	.05
4. ESMF				-	.10	.00	.05	.14**	.09	15**
5. SM					-	-.06	.04	.16**	.02	.04
6. FR						-	-.00	.40**	.15**	.35**
7. ML							-	-.00	.01	.02

8. SEC								-	.22**	.28**
9. SRIE									-	.19**
10. MH										-
M	30.37	62.23	49.66	16.75	4.88	5.55	18.47	20.12	29.80	36.06
SD	6.03	8.52	12.81	4.87	.44	2.80	4.63	4.83	5.91	7.92

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Sexual behaviours offline = SBO, sexual attitudes and beliefs = SAB, sex relationship and internet education = SRIE, exposure to sexualised material = ESM, friends sexualised material exposure = ESMF, family relationships = FR, monitoring level = ML, secrecy = SEC, mental health = MH, social media = SM.

Inferential statistics

A regression model was conducted to investigate whether social media, family relationships, monitoring level, sexual exposure, sexual exposure friends, and mental health predicted sexual behaviour in young adulthood. The regression model predicted approximately 37% of the variance in sexual behaviours in young adulthood, $\Delta R^2 = .37$, $F(5, 305) = 37.89$, $p < .001$. Exposure to sexualised material was the only significant individual predictor and was positively associated with sexual behaviours in young adulthood ($\beta = .59$, $p < .001$), such that adults exposed to greater amounts of sexualised material were more likely to report risky sexual behaviours in the present day.

Table 5.3 – *Results of Linear Regression Analysis for sexual behaviours in adulthood*

Variables	Beta	*SE*	*β*	*p*
SM	-.02	.81	-.00	.979
FR	-.01	.12	-.00	.927
ESM	.28	.02	.59	<.001
ESMF	.05	.06	.04	.418
MH	-.01	.03	-.02	.659

Another regression model was conducted to investigate whether social media, family relationships, monitoring level, sexual exposure, sexual exposure friends, and mental health predicted sexual attitudes and beliefs in young adulthood. The regression model predicted approximately 21% of the variance in sexual attitudes and beliefs in young adulthood, $\Delta R^2 = .21$, $F(5, 304) = 17.18$, $p < .001$. Exposure to sexualised material was a significant positive predictor of sexual attitudes and beliefs ($\beta = .32$, $p < .001$) such that those who report higher exposure to sexualised material were more likely to report unhealthy sexual attitudes and beliefs in the present day. Mental health was a significant positive predictor of sexual attitudes and beliefs ($\beta = .23$, $p < .001$) such that those who report poor mental health were more likely to report unhealthy sexual attitudes and beliefs in the present day. Social media use was a significant negative predictor of sexual attitudes and beliefs ($\beta = -.16$, $p = .002$) such that those who report less social media use were more likely to report unhealthy sexual attitudes and beliefs in the present day.

Table 5.4 – *Results of Linear Regression Analysis for sexual attitudes and beliefs in adulthood*

Variables	Beta	*SE*	*β*	*p*
SM	-4.12	1.31	-.16	.002
FR	-.34	.19	-.09	.082
ESM	.21	.04	.32	<.001
ESMF	.16	.10	.10	.103
MH	.28	.06	.23	<.001

Note. * p<.05.
Exposure to sexualised material = ESM, exposure to sexualised material friends = ESMF, family relationships = FR, mental health = MH, social media = SM.

An ANOVA was conducted to investigate differences in social media use in early adulthood and exposure to sexualised material. There was no significant main effect of social media use on exposure to sexualised material, $F(3, 326) = 1.57$, $p = .197$.

A further regression examined whether exposure to sexualised material in early adulthood predicted mental health at that time. The regression model was not significant, $\Delta R^2 = .00$, $F(1, 320) = .21$, $p = .650$.

Paired samples t-tests were conducted to compare social media use, family relationships, sexualised material exposure, sexualised material exposure friends, sexual behaviours, sexual attitudes and beliefs, and mental health in high school and in early adulthood. Social media use was significantly higher in early adulthood compared to high school $t(332) = 2.87$, $p = .004$, with a small effect size, d = .15. Strong family relationships were significantly lower in early adulthood compared to high school, $t(330) = 7.25$, $p < .001$, with a small to medium effect size, d = .399. Exposure to sexualised material was significantly higher in early adulthood compared to high school, $t(317) = 7.59$, $p < .001$, with a medium effect size, d = .42. Sexual behaviours were significantly higher in early adulthood compared to high school, $t(309) = 11.08$, $p < .001$, with a medium effect size, d = .63. Sexual attitudes and beliefs were significantly higher in early adulthood compared to high school, $t(308) = 2.55$, $p = .011$, with a small effect size, d = .14. Mental health was significantly lower in early adulthood compared to high school $t(322) = 14.46$, $p < .001$, with a large effect size, d = .80. Friends sexualised material exposure was significantly higher in early adulthood compared to high school $t(330) = 4.76$, $p < .001$, with a small effect size, d = .26.

Table 5.5 – *Results of paired samples t-tests examining the difference in constructs at time one (high school) and time two (present day).*

	High school	Present day	t(df)	p	Cohen's d

	M	*SD*	*M*	*SD*			
SBO	26.73	6.76	30.36	6.04	-11.08 (309)	<.001	-.630
SAB	60.92	9.18	62.22	8.55	-2.55 (308)	.011	-.145
ESM	49.74	12.87	53.79	12.75	-7.59 (317)	<.001	-.426
ESMF	16.76	4.78	17.95	5.01	-4.76 (330)	<.001	-.262
SM	4.88	0.44	4.95	0.33	-2.87 (332)	.004	-.157
FR	5.54	2.80	4.68	2.38	7.25 (330)	<.001	.399
ML	36.07	7.92	30.13	7.35	14.46 (332)	<.001	.805

Sexual behaviours offline = SBO, sexual attitudes and beliefs = SAB, exposure to sexualised material = ESM, friends sexualised material exposure = ESMF, social media = SM, family relationships = FR, mental health = MH.

Next a regression model was conducted to investigate whether social media, family relationships, monitoring level, secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school predicted risky sexual behaviours in early adulthood. The regression model predicted approximately 31% of the variance in sexual behaviours in young adulthood, $\Delta R^2 = .31$, $F(8, 294) = 17.56$, $p < .001$. Exposure to sexualised material in high school was a significant positive predictor of sexual behaviour in young adulthood ($\beta = .54$, $p < .001$), such that those exposed to greater sexualised material in high school were more likely to report risky sexual behaviour in young adulthood.

Table 5.6 – *Results of Linear Regression Analysis for social media, family relationships, monitoring level, Secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school, and sexual behaviours in early adulthood.*

Variables	Beta	*SE*	*β*	*p*
SM	-1.01	.73	-.07	.166

Variables	Beta	SE	β	p
FR	.03	.12	.01	.784
ML	-.01	.06	-.01	.806
SEC	-.07	.07	-.06	.301
SRIE	.00	.05	.00	.892
ESM	.25	.02	.54	<.001
ESMF	.11	.07	.09	.111
MH	-.07	.04	-.10	.057

Note. * *p<.05.*
Sex relationship and internet education = SRIE, exposure to sexualised material = ESM, friends sexualised material exposure = ESMF, family relationships = FR, monitoring level = ML, secrecy = SEC, mental health = MH, social media = SM.

A further regression model was conducted to investigate whether social media, family relationships, monitoring level, secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school predicted unhealthy sexual attitudes and beliefs in early adulthood. The regression model predicted approximately 8% of the variance in sexual attitudes and beliefs in young adulthood, $\Delta R^2 = .08$, $F(8, 295) = 4.53$, $p < .001$. Exposure to sexualised material in high school was a significant positive predictor of sexual attitudes and beliefs in adulthood ($\beta = .22$, $p = .002$), such that those exposed to greater sexualised material in high school were more likely to report unhealthy sexual attitudes and beliefs in young adulthood.

Table 5.7 – *Results of Linear Regression Analysis for social media, family relationships, monitoring level, Secrecy, sex relationship and internet education, sexual exposure, sexual exposure friends, and mental health in high school, and sexual attitudes and beliefs in early adulthood*

Variables	Beta	SE	β	p
SM	-.80	1.33	-.03	.544

FR	-.25	.19	-.08	.208
ML	-.09	.10	-.05	.347
SEC	-.00	.11	-.00	.945
SRIE	.16	.08	.11	.055
ESM	.14	.04	.22	.002
ESMF	.15	.11	.08	.198
MH	.10	.06	.09	.117

*Note. * p<.05.*
Sex relationship and internet education = SRIE, exposure to sexualised material = ESM, friends sexualised material exposure = ESMF, family relationships = FR, monitoring level = ML, secrecy = SEC, mental health = MH, social media = SM.

Discussion

The aim of Study three part two was to examine whether sexualised material exposure influenced sexual attitudes and behaviours in adulthood. In addition, whether exposure to sexualised material in adolescence predicted risky sexual behaviours and unhealthy sexual attitudes and beliefs in adulthood. Study three part two also considered the role of other factors including, social media use, mental health, friends sexualised material exposure and family relationships. Education, secrecy, and monitoring level were included as factors in the analysis when comparing adolescent predictors to adult outcomes (e.g., sexual attitudes and behaviours).

Findings indicated that in early adulthood, risky sexual behaviours increase if individuals experience higher exposure to sexualised material. Further, unhealthy sexual attitudes and beliefs are more likely to occur with higher exposure to sexualised material, low social media use, and poor mental health. When comparing experiences from high school to early adulthood, social media use, exposure to sexualised material, friends' exposure to sexualised material, risky sexual behaviours, and unhealthy sexual attitudes and beliefs were

significantly higher in adulthood, whilst strong family relationships, and positive mental health were significantly lower in adulthood. Persistent effects indicated that risky sexual behaviour, and unhealthy sexual attitudes and beliefs in adulthood persisted if the individual was exposed to high levels of sexualised material in adolescence. Findings did not indicate any factors (in high school or adulthood) that lowered the likelihood of exhibiting risky sexual behaviours or unhealthy sexual attitudes and beliefs in adulthood.

Study three part one examined the factors that influenced adolescent's sexual attitudes and behaviours. Findings revealed that sexual behaviour was influenced by exposure to sexualised material, good mental health, low social media use, and not being secretive with a caregiver. Study three part two examined the same factors (except education, secrecy, and monitoring level) and outcomes for adults. Comparing results in study three part one to the adulthood results in study three part two, sexual behaviour in adults was influenced by sexualised material exposure but was not influenced by social media or mental health. Secrecy was not included for adults. It is not surprising that good mental health did not affect adult's sexual behaviours considering that this study revealed that mental health is less positive in adults than in adolescents, especially with repeated exposure to sexualised material. In study three part one sexual attitudes were predicted by poor education, poor mental health, and sexualised material exposure (friends and self). When comparing these results to sexual attitudes and beliefs in study three part two, poor mental health and exposure to sexualised media was significant, but friends' exposure and social media use was not. Education was not included for adults. Adolescents place considerable value on the attitudes and behaviour of friends and are affected by peer pressure to a greater extent than adults (Peter & Valkenburg, 2009). This could explain why friends' exposure influenced sexual attitudes and beliefs in adolescence but not in adulthood.

Study three part two also examined effects from adolescence that persisted into adulthood. Findings indicate that the only factor from adolescence that significantly influenced sexual attitudes and behaviours in adulthood was exposure to sexualised material. Likewise in study three part one, exposure to sexualised material was a persistent risk factor for the development and sustainment of unhealthy sexual attitudes and beliefs, and risky sexual behaviour in adolescence. Together, findings suggest that prolonged engagement with sexual material can have long term negative effects which is consistent with most previous research (Baams et al., 2015; Daneback et al., 2018; Lin et al., 2020; Martellozzo et al., 2020; Peter & Valkenburg, 2006b, 2008, 2009; Rodenhizer & Edwards, 2019; Sun et al., 2016), but not others (i.e., Peter & Valkenburg, 2011). Exposure to sexualised material was consistently significant in each regression analysis in study three part one and four, demonstrating the consistency of the influence of this material. Sexual script theory (see Gagnon & Simon, 1973) and desensitisation have been cited as possible reasons for the impact of this content.

Sexual script theory recognises that sexual attitudes and behaviours are shaped by scripts of culture, learning, and society. Sexual knowledge is acquired from one's own experiences and outside influences such as peers, family, and the media. The scripts influence how an individual thinks about sex and becomes a perceived reality to that person. This is especially the case if their peers have similar scripts, and they have no conflicting information to disprove their scripts. Sun et al. (2016) argue that sexualised material heavily influences sexual script formation and this in turn influences sexual behaviour. In this study, sexualised material was a strong predictor of unhealthy sexual attitudes and behaviour. If adolescents are exposed to sexualised material before they are sexually active, they begin to build sexual scripts based on the sexually explicit material because they have no additional (contradictory) information. Rodenhizer and Edwards (2019) found that pre-existing sexual scripts influenced the way that men perceived sexually explicit media and increased risky

sexual behaviours. Men in particular simulated pornography in their own sex lives. High pornography consumption often increases the likelihood of adults incorporating this into their sexual behaviour and beliefs (Bernstein et al., 2023; Frith & Kitsinger, 2001; Harkness et al., 2015). Sexual scripts create a perceived reality reflecting how the brain processes emotion arousing content (Crone & Konijn, 2018). If an individual develops sexual scripts from sexualised material, then this will be perceived as real (Baams et al., 2015; Peter & Valkenburg, 2006b) leading to an increase in unhealthy sexual attitudes and therefore behaviours.

Desensitisation theory states that repeated or prolonged exposure to a stimulus (usually negative or anxiety inducing) has a desensitising or normalising affect (see, Pavlov, 1927; Whatson & Rayner, 1920; Wolpe, 1958, 1968). When adolescents view sexually explicit material, they start to become desensitised and the more they view it the more they become desensitised (Daneback et al., 2018; Martellozzo et al., 2020). When it becomes normalised, it is no longer considered to be risky or inappropriate meaning that adolescents are more likely to engage in risky sexual behaviour because they don't see it as risky. Study three part two demonstrated how powerful desensitisation, normalisation, perceived realism, and sexual scripts can be because the influence of sexualised material in adolescence continued to affect sexual attitudes and behaviours in adulthood.

Implications for the future

Earlier in this chapter, the researcher made four predictions for the future landscape if there are no interventions to address exposure to sexually explicit content. These predictions were, increased prevalence of risky sexual behaviour, distorted perceptions of sex and relationships, greater acceptance of sexual aggression and violence, and increased mental health issues. Study three part two has shown how persistent the effects of exposure to sexualised material are on sexual attitudes and behaviours. By the time adolescents reach

adulthood, exposure to sexualised material, social media use, risky sexual behaviours, and unhealthy sexual attitudes all increased, and strong family relationships and positive mental health declined. In studies two and three, education has been shown to be of poor quality, and peer influence has been shown to play a significant role in adolescent attitudes and decision making with peer acceptance of considerable importance. Therefore, it is no surprise that sexual knowledge is often acquired from sexualised material and peers, creating distorted perceptions of sex and relationships, which in turn influences sexual behaviour. With no intervention, distorted perceptions can lead to greater acceptance of violent or aggressive sexual beliefs and repeated exposure to this media can cause desensitisation which can increase the likelihood of an individual perpetrating or becoming victim of violent or aggressive sexual acts. In addition, mental health issues may increase due to how unrealistic the sexualised material is, increasing the likelihood of body image issues, depression, aggression, and victimisation into adulthood.

Study three part two suggests that this is not just an issue in adolescence but in adulthood as well. Sexualised material has such a strong influence on adolescents that the effects persist into adulthood. Greater focus on education around sex and relationships, and internet safety is required. Professionals working with adolescents should focus on positive messages aimed at addressing the content of sexualised material and altering sexual scripts. Education needs reform with new compulsory policies for schools to follow including in primary school and teachers must be properly trained to deliver it. Research should be conducted continually because the media landscape changes so frequently with new social media platforms and websites being developed often. Parents and carers should be offered regular training courses in schools (e.g., once per year) to teach them about sexualised material exposure, the effect this has on children and how they can support their children to

use the internet safely. In addition, parents and caregivers should be offered internet literacy training so they are able to keep up with the fast-changing landscape of the internet.

Limitations and conclusions

This study is not without its limitations. First, the recruitment limitations discussed in study three part one is the same for study three part two because this study uses the same data set as study three part one. The survey was originally designed for participants aged between 13 and 16 but this was altered to 18 and over. Although this presented originally as a limitation, it allowed for the study to be altered to include two time points. Time point one was adolescence (i.e., between 13 and 15 years) and time point two was adulthood (i.e., between 18 and 21 years). Therefore, the age change was a limitation for the adolescence section of the survey because participants were required to answer retrospectively, however modifying the survey enabled study three part two to be possible. Participants completed the adolescent section first and this may have influenced their answers when they came to answer the section on adulthood. Finally, similarly to study three part one, gender and sexuality was heavily weighted towards cis-female and heterosexual participants, therefore gender and sexuality differences could not be examined.

In conclusion study three part two is one of very few studies that compares adolescent exposure of sexualised material to adult exposure and examines the long-term effects of sexualised exposure on sexual attitudes and behaviours. Findings emphasise how embedded the beliefs formed from sexualised material can become and the effects of this on mental health. The researcher has made predictions on the consequences of exposure to sexualised media if interventions are not delivered. The landscape is concerning, and professionals should work on reforming education and educating teachers and parents. These interventions should be implemented before children begin using the internet for social purposes to enable them to build up more appropriate sexual scripts and reduce sexualised material consumption.

More research must be conducted on education provision and effectiveness to gain a clearer picture of the state of sex relationship and internet education in the UK. Further, future research should focus on exposure to sexualised media in adolescents and how this influences sexual attitudes and behaviours in adulthood by longitudinally surveying the same participants from childhood into adulthood.

Chapter 6; General Discussion

This thesis investigated the online experiences of adolescents and the predictors and consequences of risk-taking behaviour. The aim was to understand the negative outcomes that arise from using the internet, identify predictors of risk-taking behaviour, and develop early interventions such as a risk assessment tool. The research provides important information for policymakers, parents, and adolescents. Study one examined factors that influenced adolescent risk-taking. Findings indicated that age, gender, peer acceptance, sexual exploration, identifying as LGBT+, having an ethnic minority background, and vulnerabilities such as mental health and prior abuse all contributed to increased risk-taking online. In addition, strong family relationships, being older and being female, each reduced the likelihood of online risk taking. Study two examined adolescents' perceptions of online risk taking and exposure to sexualised material. Findings indicated that online risk taking has become normalised, exposure to sexualised material is commonplace, and perceptions are heavily influenced by peers. Risk taking also increased if adolescents perceived the outcomes as positive. Further, Study two indicated that education on such topics in school is inconsistent or poor. Study three part one examined how exposure to sexualised material and other wider factors influenced adolescents' sexual attitudes and behaviours. Findings indicated that low social media use, openness with caregivers, positive mental health and greater exposure to sexualised material increased risky sexual behaviour. Unhealthy sexual attitudes were increased by friends' high exposure to sexualised material, poor mental health, poor sex relationship and internet education, and greater exposure to sexualised material. In addition, exposure to sexualised material was significantly higher for adolescents who used social media daily. Study three part two examined adults' exposure to sexualised material and other wider factors relating to sexual attitudes and behaviours in adulthood. It also examined the impact of exposure to sexualised material and other factors (e.g., parenting and education)

in adolescents, on sexual attitudes and behaviours in adulthood to identify if there were any persistent effects. For adults, exposure to sexualised material increased risky sexual behaviour, whereas poor mental health, low social media use, and exposure to sexualised material increased unhealthy sexual attitudes. In addition, greater exposure to sexualised material during adolescence significantly increased unhealthy sexual attitudes and risky sexual behaviours in adulthood.

This thesis identified key elements of how exposure to sexualised material affects the development of sexual attitudes and behaviour. These are desensitisation, peer influence, education, parenting, and legacy effects in adulthood. Each element is discussed below.

Desensitisation

Results indicate the importance of researching internet risk and exposure to sexualised material in adolescents. Initial research in this area focused on unwanted exposure (Baumgartner et al., 2010b; Jones et al., 2012; Madigan et al., 2018; Mitchell, et al., 2001; Wolak et al., 2006;), with later studies reporting a decline in exposure over time. Arguably, however, social media did not become popular in mainstream society until around 2008 and in response to advances in technology (e.g., smartphones), online exposure to sexualised content should have increased. Indeed, some researchers were reporting increased exposure in their studies (Martellozzo et al., 2020; Peter & Valkenburg, 2006a; Weber et al., 2012). The rise in social media usage has complicated the issue of sexual exposure as it can be argued that the platform has opened up new avenues for communication and has pushed the boundaries of traditional social norms. This has resulted in more opportunities for individuals to be exposed to sexual content, even if unintentionally. In addition, sexual predators have increasingly used the internet to access victims (Dombrowski et al., 2004) because it is harder to detect online (Marcum et al., 2010), therefore the likelihood of being victimised online has increased over the last twenty years. It is possible that desensitisation and normalisation due

to increased exposure (accidentally or intentionally) could explain the perceived decrease in unwanted sexualised media over time. Initial research in this area (as covered in study one – narrative review) found that those adolescents with increased exposure reported positive experiences or a desire to continue engaging with the material (Buren & Lunde, 2018; Lim et al., 2017; Rice et al., 2015; Ševcˇíková et al., 2013), and increased likelihood of engaging with strangers (Popovac & Hadlington, 2020; Wood & Wheatcroft, 2020) which increased the likelihood of arranging to meet those strangers offline (Marret & Choo, 2018). Therefore, those adolescents may not describe the sexualised material exposure as unwanted which would result in a decline in self-reported unwanted exposure over time but does not mean that exposure overall declines.

Study two indicated that desensitisation to sexualised material has occurred because the content is becoming commonplace on the internet, especially on social media where adolescents are often exposed to sexual content. Even participants who described sexting as risky still stated that it was normal for adolescents to engage in this behaviour. Participants did not seem overly concerned with the sexualised material they encounter and seemed indifferent to it. Most agreed that they saw too much sexualised content online but did not seem surprised, distressed, or worried about it when they were sent sexualised content, and consistent with previous research some found this amusing (Niklin et al., 2020; Wood & Wheatcroft, 2020). Repeated exposure and therefore desensitisation influences how adolescents perceive the material (e.g., finding it funny) and in turn, affects the perceived realism of sexualised material. Increased or prolonged exposure to sexualised material has been found to cause individuals to believe that what they are viewing depicts realistic sex (Harvey, 2020; Peter & Valkenburg, 2010a; Stulhofer et al., 2012; Tan et al., 2022), especially if the individual has not had their first sexual encounter (Doornwaard et al., 2017; Harvey 2020; Wright & Stulhofer, 2019). Study three part one revealed that desensitisation

and the perceived realism of sexualised material increased unhealthy sexual attitudes and risky sexual behaviour. If adolescents perceive what they are viewing as realistic, this will inform their sexual beliefs, such as males are dominant, and females are submissive. As a consequence, this influences their sexual behaviours which will be based on the sexual scripts they have built up from the sexual material (e.g., from pornography viewing). Study three part two indicated that this was also the case for adults who were repeatedly exposed to sexualised material. In addition, the exposure experienced in adolescence had a significant impact on sexual attitudes and behaviours in adulthood. This suggests that adolescent exposure to sexualised material can lead to the internalisation of sexual scripts which shape their sexual beliefs, attitudes, and behaviour over time. These scripts may be carried into adulthood, resulting in increased acceptance of particular sexual behaviour and a greater likelihood of engaging in this behaviour.

Peer influence

Study two demonstrated that adolescents place substantial weight on the attitudes, experience, and behaviour of their peers. They value peer acceptance and are likely to rely on peers to gain knowledge (e.g., of sex and relationships, therefore contributing to sexual scripts). Peer pressure and acceptance were identified in study one as a contributing factor to risk-taking online and the importance of peer influence is well documented in the literature (Gasso et al., 2019; Kvardova et al., 2021; Pilgrim & Blum, 2012; Shin & Ismail, 2014). This can be attributed to the fact that adolescents often lack the skills needed to resist peer pressure and may be more inclined to take risks to fit in and gain acceptance. As a result, they may be more likely to take risks online, such as sharing personal information or engaging in activities that can be dangerous. In study one, participants risk taking increased and risk perceptions decreased if they perceived the outcome as positive, for example gaining new friends or followers on social media therefore demonstrating the importance placed on peer acceptance.

Study three part one demonstrated the significance of peer influence. For example, participants who perceived their friends to be exposed to high levels of sexualised material reported an increase in unhealthy sexual attitudes. Together, findings suggest that peer acceptance and peer influence can have a powerful impact on the behaviour and beliefs of adolescents.

Consequently, adolescents' sexual attitudes are influenced by the perceived experiences of their friends online, and this perceived peer group norm can influence their own risk-taking decisions (Branley & Covey, 2018). However, study three part two suggests that the peer influence on sexual attitudes and behaviours does not continue into adulthood. Nevertheless, peers play a crucial part in adolescents' life, and peer influence appears to be more important than family and school (Spano, 2004). The ecological systems theory (Bronfenbrenner, 1979) acknowledges that within the microsystem, peers, family, and school each play a significant role in shaping an individual's beliefs and behaviours, and as the individual grows older peers take the most influential role. Studies one, two, and three indicated the importance of strong family relationships and education. An inadequate positive influence from family or education can lead a child to be influenced by other sources such as peers (microsystem) and the mass media (i.e., sexualised material; the exosystem). The ecological systems model (Bronfenbrenner, 1979) has been applied when researching sexual development (Pilgrim & Blum, 2012; Pittenger, 2016), examining how different levels of influence can influence a child's sexual attitudes and behaviours. This thesis expands on that research, demonstrating that peers play a significant role in shaping sexual attitudes and the likelihood of engaging in risky sexual behaviour especially if they believe it to be the norm within their peer group.

Parenting

There are conflicting findings with regards to parenting and adolescent online risk taking. It has been argued that restrictive parenting does not lower risk taking online (Shin & Ismail, 2014). This may be because adolescents may feel that their autonomy and privacy are being threatened, which motivate them to take more risks online in order to feel more empowered and independent. In contrast, study one identified parenting as a factor that lowers risk taking. Lower parental mediation was found to increase the likelihood of adolescents engaging with strangers online and arranging to meet them in person (Marret & Choo, 2018). However active parenting has been shown to lower some elements of risk taking, but not all (Shin & Ismail, 2014). Furthermore, restrictive parenting can lead to feelings of distrust, which can further lead to risk-taking behaviour and increased secrecy with caregivers. For instance, when parents are overly restrictive, it can result in adolescents feeling like they have no control over their lives, which can lead to a need to take risks in order to feel empowered and independent. Similarly, when parents are too strict, it can create a lack of trust between the parent and adolescent, which can further increase risk-taking behaviour and increased secrecy with caregivers.

Therefore, studies three and four addressed this by looking at different elements of parenting, that is quality of relationship, openness, and strictness. Study three part one found that adolescents who reported reduced secrecy towards a caregiver also reported an increase in risky sexual behaviour. Secrecy did not influence sexual attitudes and beliefs, and monitoring level and family relationships did not influence sexual attitudes or behaviours. Study three part two found no effects of family relationships, monitoring level, and secrecy on sexual attitudes and behaviours in adulthood. These findings indicate that the influence of family relationships and monitoring levels on risky sexual behaviour is only seen in adolescence and not adulthood. This is contradictory to previous research (see, Shin & Ismail,

2014) that suggests some elements of parenting are effective in lowering risk taking and some methods increase risk taking. Furthermore, in study three part one it appears that secrecy is an important factor in adolescent risky sexual behaviour but has no influence on sexual attitudes. Family relationships and monitoring level appear to have no effect on sexual attitudes or behaviours, which also contradicts existing research. Parents should focus on establishing positive relationships with their children and on teaching them to be responsible and make thoughtful decisions when it comes to their online activities. This type of approach is more likely to be successful in reducing online risks.

Education

Education on sex and relationships, and internet safety in schools has been subject to limited research. Government guidelines are unclear on what content should be covered for such education and the frequency. As a consequence, there is substantial variation in sex relationship and internet education between schools. In existing studies, adolescents often lack this type of knowledge, which influence their risk taking and perceptions of risky behaviour (Chiu & Quayle, 2022; Roche et al., 2023; Wood & Wheatcroft, 2020). For example, previous sex education studies (Grubb et al., 2020), show that those with limited formal education tend to take greater sexual risks. It is evident, therefore, that adolescents may lack the knowledge and information to make informed decisions about their sexual lives, even though many sex education programs exist. Because they do not have the knowledge necessary to acquire healthy sexual attitudes and make informed choices, adolescents with limited formal education are more likely to engage in risky sexual behaviour. To understand the issue from the perspective of adolescents, participants in study two were questioned about their experiences with online safety education and sex and relationship education at school. According to participants' accounts, their education on this topic at school was poor (e.g., lacks depth), or non-existent. Although participants were knowledgeable about online safety

and sexualised material, they did not exhibit sufficient risk awareness. Participants had a general understanding of what was considered risky behaviour, yet still demonstrated risk taking behaviour online. Further, most of their knowledge came from their own experiences or their peers' influence and experiences. These findings suggest that while participants were aware of online safety and sexualised material, they lacked awareness of the potential implications of their online behaviour. This is likely because of the lack of online safety education provided to adolescents. Without being properly educated on the subject, they are unable to accurately gauge the risks involved in their online activities, with particular influence from their (similarly educated) peers.

Study two identified how inconsistent sex relationship and internet safety education was in high school and how this influenced risk perception. As a result, it was critical to understand whether sex relationship and internet education had an impact on sexual attitudes and beliefs and (if so), understand the strength of that impact. This was assessed in studies three and four. According to study three part one, those with poor quality education reported more unhealthy sexual attitudes and beliefs in adolescence. As identified in study three part two, there were no persistent effects (into adulthood) on sexual attitudes and behaviour associated with sex relationships and internet education. This demonstrates that without effective education, sexual attitudes and beliefs are negatively affected during adolescence. However, the effects of sex relationship and internet education on the participants' sexual attitudes and behaviours may not persist into adulthood.

Long term impact

The purpose of this thesis was to generate knowledge of the consequences of exposure to sexualised material that can inform policies and interventions. Using existing literature and the findings of studies one, two, three and four the researcher predicted what the future would look like for adolescents if they did not receive effective guidance and

intervention. Four predictions were made. It was predicted that risky sexual behaviour would increase, perceptions of sex and relationships would be distorted, sexual violence and sexual aggression would be accepted more readily, and mental health issues would increase. These predictions were made, in part, based on the findings of study three part two, which showed that adults exposed to sexually explicit material were more likely to engage in risky sexual behaviour. Also, those exposed to sexualised material displayed poor mental health and unhealthy attitudes toward sex. Since adolescence, there were declines in mental health and family relationships among adults in study three part two. However, their use of social media, exposure to sexualised material, risky sexual behaviour, unhealthy sexual attitudes, and perception of how much sexualised material their friends are exposed to increased. The exposure to sexualised material they experienced during adolescence also negatively impacted their sexual attitudes and behaviours in adulthood. This shows that an individual's ideas and beliefs about sex and relationships can be influenced by early exposure to sexualised material; further this may result in a decrease in the quality of family relationships and mental health. Social media can be a major source of exposure to sexualised material, which appears to influence sexual attitudes and increase the likelihood of risky sexual behaviour. When young people are exposed to such material, they are more likely to accept stereotypes and gender roles, resulting in a diminished sense of self-worth and self-esteem. The possibility of engaging in high-risk sexual behaviours, such as early sexual activity, can also lead to a decline in mental health for these individuals. Therefore, it is essential that adolescents receive interventions to reduce their exposure to sexualised material, as this can have a long-term negative impact on their mental health and relationships.

Limitations and context

The initial phase of the PhD involved substantial uncertainty. Due to unforeseen circumstances, the researcher was required to change to four new supervisors who were not

familiar with her work or her thesis plan. It took time for the supervisors to become familiar with the work and the researcher was required to rewrite elements of the research plan to be more in line with the supervisor's expertise. Then due to several reasons, the researcher changed supervisors again and was able to resume the original thesis plan. As a consequence, data collection for study two (which commenced first) did not begin until 2020. Shortly after, the world went into lockdown. Therefore, the bulk of this PhD has been conducted during the pandemic which had important implications for data collection. Data collection was not completed for study three part one until January 2023 (following a rewrite of the study plan and a change in the age of participants) which meant that the researcher was unable to develop the planned risk assessment tool for study three part two. In addition, the focus of this thesis is on adolescent's risk taking and exposure to sexualised material, which presented with ethical issues. Gaining access to adolescents is difficult because participants under the age of eighteen are considered vulnerable, requiring more rigorous ethical procedures including parental consent and gatekeepers. What made this especially difficult was the sensitive topics that were being researched and participants would be required to be interviewed on such topics or answer questions in a survey. Therefore, ethical approval for studies two and three was time consuming. Further, gaining access to participants in a pandemic was difficult because it relied on youth groups and schools (closed during lockdown) to facilitate recruitment.

Specific limitations for each study are outlined below.

Study one

Initially, study one was planned to be a systematic review of the literature examining factors that are associated with adolescents' risk-taking behaviour online. Meta-analysis can be used to systematically analyse the results of many papers (Haidich, 2010) using a statistical approach to combine findings from different research to gain generalised results for

a large population (van Wely, 2014). However, the studies included in a meta-analysis should be similar in population, outcome, and intervention (Green, 2005) and this was not possible in this study. The data collection and sample sizes were too varied in addition to not using standardised measures. Questions were asked in varying ways and the review included qualitative, quantitative, and mixed-method studies. Therefore, a meta-ethnographic review was adopted because it provides more flexibility for the researcher to address different questions and methods (Ferreri, 2015). Nevertheless, the study was effective in identifying factors that are associated with risks taken online and the corresponding risk behaviour. The review also identified protective factors that aid in reducing risk taking online. This study provided a foundation for the remainder of the research in the programme of studies.

Study two

Recruiting participants for this study proved difficult because of the age of the participant and the sensitivity of the interview topic and limited access to participants due to the pandemic. Only two of the interviews were conducted in person and the rest were conducted via Zoom. This resulted in two types of interviews. Video conferencing often increases access to participants, particularly if the sample is considered vulnerable or harder to reach. This may have been a preferred method for adolescents because they are so used to conducting themselves online and communicating through this medium (Sullivan, 2012). Consequently, adolescents may feel more comfortable participating because they are in their familiar environment (Irani, 2019). It is of course important to recognise criticisms of this approach. For example, Khan and MacEachen (2022) argue that video conferencing methods of data collection can expose practical issues such as internet connection issues and loss of rapport building. In addition, the researcher may not be able to see the entire participant (as cameras usually only show head and shoulders) making it difficult be able to identify through body language if the participant is feeling uncomfortable which is important especially if the

interview is sensitive (Irani, 2019). Nevertheless, the researcher was able to build up rapport and, in her opinion, all participants seemed comfortable. The researcher did not observe a difference between the Zoom interviews and the in-person interviews based on the ways the participants acted, spoke, and responded to the questions.

Due to time restrictions exacerbated by the aforementioned disruption to the supervisory team, data collection ended after eight interviews and did not meet the recommended twelve participants to reach data saturation (Guest et al., 2006). However, some researchers argue that data saturation should not solely focus on the number of participants but other factors such as the nature of the interview itself (Fusch & Ness, 2015). For example, semi-structured interviews typically collect more data than structured interviews due to the flexibility of being able to ask follow-up questions (Mwita, 2022). Therefore, data saturation is reached when the interviews are no longer offering new information (i.e., participants are giving the same answers). This was the case in study two and data saturations were reached despite only recruiting eight participants.

Studies three and four

The study three part one survey was designed for adolescents aged 13 to 19 and initially included one main section asking participants questions about the present day. Ethical approval took a long time due to the age of participants and the sensitivity of the topic being researched. The ethics board was concerned about the participants' understanding and whether they could answer the questions adequately. In particular, they believed that the researcher would need different surveys for under 16s and over 16s because of their different cognitive abilities and sexual development. The researcher defended the original approach with her knowledge of working with young people, reporting that adolescents in both age categories would be able to complete the survey and that it is the younger age group that engage in the most risks and are very knowledgeable on the topic area. It was agreed the

researcher was to conduct a pilot study with a sample of similar-aged young people to address the concerns of the ethics board. This was completed and then a final amendment was submitted to the ethics board and approved. Data collection for this study heavily relied on schools and caregivers to facilitate recruitment and this proved extremely difficult. Towards the end of 2022, the researcher had recruited 40 participants. Due to the imminent deadline of the thesis submission and with another study still to be conducted, the researcher had to change the study. This resulted in university students being recruited to complete the survey retrospectively (i.e., thinking back to high school). The revised survey also included a section on present-day experiences (i.e., early adulthood).

Retrospective data collection can be problematic due to recall bias and distortion (Stone & Shiffman, 2002); however, it can have important advantages over longitudinal data collection. Longitudinal studies require data to be collected over a long period, and researchers must locate participants at each subsequent stage, which can result in substantial participant attrition (Beckett, Da Vanzo, Sastry, Panis & Peterson, 2001). Therefore, due to time constraints and likely retention issues, the decision was made to use retrospective answers which also enabled the researcher to gain insight from two time points, one in high school and one in early adulthood. This then became the basis for study three part two.

Originally study three part two planned to focus on the development of a risk assessment tool centred on adolescent online risk-taking, to enable practitioners to identify the types of risks an individual is taking so that interventions can be specific to those risks. For example, they may be looking at sexually explicit material but not sharing personal information or speaking to strangers, therefore the intervention would be tailored towards sexually explicit material. However, this was not able to proceed. The age of the participants in the revised study three part one would not have provided the most authentic data to inform an adolescent risk assessment tool. Therefore, study three part two focused on the adult

section of the survey by examining early adulthood experiences and comparing these to experiences in adolescents to identify any long-lasting effects of exposure to sexualised material during adolescence. Although the risk assessment could not be developed, it is important to note that due to the pilot study, the survey was confirmed to be suitable for use with adolescents, so going forward, the survey can be used to inform a risk assessment tool for adolescents.

Updated literature

Since conducting the main literature review for the thesis there has been some noteworthy research published that it is important to acknowledge. This research enhances the findings and recommendations from this thesis and also reinforces them based on the results of the studies. Marshall, Miller and Bouffard (2018) provide evidence in their study to suggest that sexual scripts manifest into behaviours. They found that pornography use can significantly influence sexual scripts which in turn influences sexual behaviours and sexually coercive behaviours. Other research supports the findings that family support and mediation can be a protective factor against online risk taking and that there are significant gender differences in online risk behaviours (Aljuboori, Seneviratne-Eglin, Swiergala & Guerra, 2021). In addition, there is evidence to support the findings that viewing sexualised media negatively impacts sexual attitudes and behaviours (Waterman, Wesche, Morris, Edwards & Banyard, 2022). In relation to education on internet safety, and sex and relationships there are two papers of note. Altintas and Gul (2021) wrote a paper on the internet as a negative form of sex education. They argue that whilst there is a range of online resources from trusted sites that are factually correct, informative, and advantageous, there are also online sites and resources that are factually incorrect and potentially harmful. Adolescents are increasingly being exposed to a range of sexual media and information ranging from social media posts, pornography, and disturbing and harmful content such as sexual abuse images and sexual

solicitation. Adolescents will more likely gain their information from social media and other inaccurate sources rather than from factually correct and trusted sources.

The second paper of note is written by Finkelhor, Walsh, Jones, Mitchell, and Collier (2021). They reviewed youth internet safety education programmes and their effectiveness. Finkelhor et al (2021) acknowledged the limited research evaluating the effectiveness of current programmes. Furthermore, there are inconsistencies in the messages emphasised in education programmes compared to current internet harms. For example, the most common internet safety messages given include not speaking to strangers, not sharing personal information and that people online can lie about their identity. These messages are ineffective because (as study two of this thesis found) adolescents often perceive people that they engage with online as friends. In addition, Finkelhor et al (2021) also argue that if adolescents view these people as friends, then they will not perceive that they are sharing personal information with a stranger. Similarly in study two, adolescents assessed deception by confirming identity through a video call and did not consider other types of deception. A common message throughout this thesis and stated in Finkelhor et al's (2021) review is that warning messages and risk aversion messages are not effective alone in reducing adolescent risk taking online.

Finally, a UNICEF report was published investigating the risks and opportunities that children encounter online (Stoilova, Livingstone & Khazbak, 2021). This extensive study states that children who are vulnerable offline are often vulnerable online too. Likewise in study one of this thesis, offline vulnerabilities or experiences can increase the likelihood of having negative experiences online which Stoilova et al (2021) refer to as the pathway to harm. The paper also touches on protective factors although the authors acknowledge that research on this topic is scarce. This thesis found that research on protective factors was inconsistent, especially around parental monitoring methods. The UNICEF report (Stoilova et al, 2021) calls for more research into the topic of children and young people's internet usage,

in particular, research with pre-teenagers, and more research focussing on the outcomes of internet risk taking. In addition, they call for significantly more research that gains the views of adolescents in a child centred approach. The latter two of which this thesis has attempted to address.

Implications

Based on the findings from this thesis, there are four key areas that need addressing (i.e., desensitisation, peer influence, education, and parenting) to limit the long-term negative consequences that can arise from online risk taking and repeated exposure to sexualised material. This thesis has shown that without intervention exposure to sexualised material may negatively impact mental health and sexual attitudes and behaviours persisting into adulthood. Below are recommendations to address each issue.

Desensitisation

Adolescents may become desensitised when repeatedly exposed to sexualised content online, and this is exacerbated by the fact that they spend a lot of time online, specifically on social media platforms where they experience most of the exposure. This desensitisation to sexualised content can lead to adolescents developing a normalised attitude towards the content which can then inform sexual scripts and have a detrimental effect on their physical and mental health. Practitioners should recognise that even adolescents who say the exposure is wanted can still experience negative effects of this exposure. Therefore, the recommendation is for social media companies to do more to reduce the sexualised content available to adolescents online and counter this with positive messages. Practitioners should focus attention not only on reducing risk taking but work towards changing perceptions in order to alter the underlying sexual scripts that impact risky sexual behaviours. This could include initiatives like providing more information about healthy relationships, and the consequences of engaging in risky behaviour. Initiatives should be developed to empower

adolescents to challenge the overwhelming influence of sexualised images and messages while promoting positive body image, gender equality, and respectful relationships.

Peer influence

Peer pressure, peer acceptance, and the perception that peers are exposed to sexualised material influences sexual attitudes and behaviours. Furthermore, adolescents often believe that their peers are engaging in risky sexual behaviour because they have similar views. In order to be accepted by their peers, adolescents are more likely to conform to the social norms displayed by peers. They may, therefore, engage in risky sexual behaviour more readily and believe that it is normal (e.g., perceived realism). Adolescents in study two indicated that their knowledge of risk taking, and sexualised material had been developed from their own social experiences and the experiences of their friends. In addition, study three part one emphasised the influence that peers have on an individual's sexual attitudes and behaviour. Focusing on group interventions, therefore is crucial so that peers can share their thoughts and experiences among themselves to identify and address incorrect beliefs about each other's sexual attitudes and behaviour. This can help them to develop more accurate and realistic beliefs about the behaviours of their peers. Through this process, adolescents can learn to make more informed decisions about their own sexual behaviour. Group interventions can allow adolescents to have honest conversations about sexuality and to learn from each other in a safe and supported space. In addition, it can also provide an opportunity for adolescents to think critically about their own beliefs and to explore their feelings in a supportive environment.

Education

From this thesis, it is evident that sex relationships and internet safety education in its current form are not effective at reducing risk taking. It is essential that a comprehensive review of current internet safety and sex education is conducted so that more effective

education can be included in the curriculum. Beginning in primary school and continuing until high school, this education should be provided at least once per year. In light of the fast-paced changes occurring on the internet and the changing issues adolescents face, regular reviews of this education are necessary. Different age groups (to account for understanding and development) should have different guidelines, for example, primary school should emphasise positive body image, mental health, healthy relationships, and body autonomy and consent. Moreover, education policy should be inclusive of all sexualities, genders, and types of families. As children advance through the developmental stages, teachers need to reinforce the messages from previous education and emphasise positive messages about sex and relationships so that the subject becomes less taboo or negative. Additionally, education should provide information about how to have sex safely, how to decide whether to have sex for the first time and the importance of contraception. Risk cannot be completely eliminated from an adolescent's life, so harm reduction messages focussing on how to engage in the risks in a safer manner are more effective than preventing risk. Abstinence should also be presented as an option. Education should focus on helping adolescents make informed decisions about sex and be provided in a non-judgemental manner. There should be no shame or stigma associated with these decisions. This can be done by providing access to accurate sexual health information and resources. Creating a safe and open environment for discussion will also help adolescents make informed decisions about sex.

Parenting

Study one identified parenting strategies as protective factors for online risk taking. Study three part one, did not however find that parenting strategies reduced sexualised material exposure, unhealthy sexual attitudes, or risky sexual behaviour. In study three part one, participants who were open with their caregivers had a greater risk of engaging in sexual behaviour. Although existing research has shown that effective parenting can reduce risk

taking, this is an area that needs to be examined further. In order to determine which parenting strategies are most effective in minimizing risk-taking, professionals should further evaluate the effectiveness of these strategies and consider whether any other factors are also influential in assisting this process (such as the quality of parental relationships). This data can then be used to develop evidence-based parenting strategies tailored to the individual needs of a family. These strategies can be used to reduce risks of harm to adolescents, leading to a healthier and more secure environment which in turn can improve mental health and openness with a caregiver. Having evidence-based parenting strategies can help caregivers create a consistent and nurturing environment for adolescents. This consistency and nurturing can help adolescents feel safe and secure, which can lead to better communication and trust and assist in reducing risk-taking. This trust can provide the foundation for better mental health and emotional well-being.

The thesis has also identified the need to educate parents on the online activities of adolescents and their risk-taking behaviour so that they can use this knowledge when parenting their children. Annual training courses should be offered to caregivers and delivered through a school or outside agency. To assist caregivers in understanding the workings of the internet and social media, internet literacy training should also be offered so that they understand how social media platforms work and how they could pose potential dangers. Such training will allow caregivers to make informed decisions about whether to allow their children to start using social media as well as how to protect them from harm through regular conversations about their child's internet use.

Risk assessment tool

The researcher will continue the work conducted for the thesis, and in particular develop a risk assessment tool. To date, no such tool is available to assess adolescents risk taking behaviour online. This tool (informed by research conducted for the PhD) will form

the basis of a practitioner-led intervention to reduce risk taking online. The tool will take a holistic approach to risk assessment, taking into account individual, family, and societal factors. In addition to categorising online risks, the tool will also focus on protective factors identified, such as strong family relationships, so that practitioners can deliver interventions from a strengths-based approach. Finally, the tool will be tested in different settings to ensure its effectiveness. When available, practitioners will be able to measure the impact of the interventions on adolescents' online risk taking and adjust their interventions accordingly. Data will be provided by the tool to support policy and practice decisions.

Future research

Relatively few studies have investigated formal sex relationship and internet safety education and how this affects the development of sexual attitudes and behaviours. The thesis findings indicate that formal education is inadequate, and a review of the current education should take place. Central to this review should be the experiences and opinions of adolescents. This research can be conducted on a wider scale across the UK to see how this education is taught and compare the differences between schools. Findings can inform recommendations for the education department to reform current policies and legislation. The thesis also identifies the long-term impact of exposure to sexualised material in adolescents and this area is currently under-researched. Study three part two should be conducted longitudinally including different time points from early adolescence into adulthood to examine risk and protective factors associated with exposure to sexualised material to fully understand the legacy effects of this exposure.

In study one, gender, sexuality, and ethnicity each had a significant impact on risk taking online, however studies two, three and four were unable to examine these factors. Therefore, future research should look specifically at how gender, sexuality, ethnicity, and other groups such as those with learning difficulties are affected by exposure to sexualised

material and how this impacts sexual development. Further, study one identified protective factors associated with online risk taking, which studies three and four failed to identify. Further research is required to establish the role of protective factors. These can then be incorporated into future interventions. Finally, more qualitative research in this area is needed to gain the views of adolescents especially when informing policy and interventions because adolescents can provide a direct insight into the subject area.

Conclusion

A unique feature of this thesis is the holistic approach it took to examine adolescents' risk-taking journey from beginning to end. There is an extensive analysis of factors that contribute to online risk taking (e.g., vulnerabilities and offline influences), the online risk behaviours that result in online risk taking (e.g., exposure to sexualised media), and the outcomes arising from these risks (e.g., risky sexual behaviours and unhealthy sexual attitudes). Further, it examined the influence of factors such as mental health, peers, family, and education. It achieved this by examining existing literature, conducting in-depth interviews with adolescents, and surveying older participants on a range of subjects identified as relating to exposure to sexualised material. The combination of all these factors provides a comprehensive overview of adolescent risk taking and its consequences.

This thesis has identified the influence of exposure to sexualised material on adolescents' risk-taking, sexual attitudes and beliefs and sexual behaviours. It also considered the impact of exposure to sexualised material in adolescence on sexual attitudes and beliefs into adulthood. Protective factors identified in study one were not found in studies two, three or four. The body of work conducted for this thesis emphasises the importance of good family relationships and communication, positive mental health and regular effective sex relationship and internet education. The findings of this thesis suggest that adolescents are more likely to engage in risky behaviours if they lack support from family and peers or if

they are feeling depressed or anxious. By creating a safe and supportive environment for adolescents to express themselves and have healthy relationships, it can help to reduce their risk of engaging in risky behaviour. Adolescents place a lot of importance on social media, and they strongly believe that they understand risks, are confident in their risk management, and have the autonomy to make their own decisions effectively. To enable education and interventions to be effective it is imperative to involve adolescents in the development of and implementation of such solutions.

Adolescents need to be afforded the understanding that they can take charge of their risk-taking to learn and build up resilience. Therefore, particular importance should be placed on reducing risk, harm reduction messages, and improving mental health rather than attempting to eradicate risk-taking. This is because adolescents are more likely to respond positively to messages of harm reduction and mental health, as opposed to being told to completely abstain from risk-taking. It also helps to ensure that adolescents feel empowered and are in control of their own decisions, which can help to build resilience and encourage positive behaviour.

References

Age Restrictions on Social Media Services (2018). Retrieved September 30th, 2020, from https://www.saferinternet.org.uk/blog/age-restrictions-social-media-services

Alexandraki, K., Stavropoulos, V., Anderson, E., Latifi, M. Q., & Gomez, R. (2018). Adolescent pornography use: A systematic literature review of research trends 2000-2017. *Current Psychiatry Reviews*, *14*(1), 47-58. https://psycnet.apa.org/doi/10.2174/2211556007666180606073617

Aljuboori, D., Seneviratne-Eglin, E., Swiergala, E., & Guerra, C. (2021). Associations between family support and online sexual abuse in Chilean adolescents: The mediational role of online risk behaviors. *Journal of Child Sexual Abuse*, *30*(2), 192-206. https://doi.org/10.1080/10538712.2021.1875280

Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *Australian Educational & Developmental Psychologist*, *31*(1), 18-31. https://doi.org/10.1017/edp.2014.2

Almalki, S. (2016). Integrating quantitative and qualitative data in mixed Methods research - Challenges and benefits. *Journal of Education and Learning*, *5*(3), 288-296. http://dx.doi.org/10.5539/jel.v5n3p288

Altintas, E., & Gul, M. (2022). The dark side of the internet regarding sexual education. *International Journal of Impotence Research*, *34*(3), 235-236. https://doi.org/10.1038/s41443-020-00398-0

Anderson, L., & McCabe, D. B. (2012). A co-constructed world: Adolescent self-socialization on the internet. *Journal of Public Policy & Marketing*, *31*(2), 240-253. https://doi.org/10.1509/jppm.08.043

Andreoni, J., Di Girolamo, A., List, J. A., Mackevicius, C., & Samek, A. (2019). Risk preferences of children and adolescents in relation to gender, cognitive skills, soft skills, and executive functions. *Journal of Economic Behaviour & Organization*, *179*, 1-26. https://doi.org/10.1016/j.jebo.2019.05.002

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469-480. https://doi.org/10.1037/0003066X.55.5.469

Atkinson, C., & Newton, D. (2010). Online behaviours of adolescents: Victims, perpetrators, and web 2.0. *Journal of Sexual Aggression*, *16*(1), 107-120. https://doi.org/10.1080/13552600903337683

Baams, L., Overbeek, G., Dubas, J. S., Doornwaard, S. M., Rommes, E., & Van Aken, M. A. (2015). Perceived realism moderates the relation between sexualized media consumption and permissive sexual attitudes in Dutch adolescents. *Archives of Sexual Behavior*, *44*, 743-754. https://doi.org/10.1007/s10508-014-0443-7

Baumgartner, S. E., Valkenburg, P. M., & Peter, J. (2010a). Assessing causality in the relationship between adolescents' risky sexual online behavior and their perceptions of this behavior. *Journal of Youth and Adolescence*, *39*(10), 1226-1239. https://doi.org/10.1007/s10964-010-9512-y

Baumgartner, S. E., Valkenburg, P. M., & Peter, J. (2010b). Unwanted online sexual solicitation and risky sexual online behaviour across the lifespan. *Journal Of Applied Developmental Psychology*, *31*(6), 439-447. https://psycnet.apa.org/doi/10.1016/j.appdev.2010.07.005

Baumgartner, S. E., Sumter, S. R., Peter, J., & Valkenburg, P. M. (2012). Identifying teens at

    risk: Developmental pathways of online and offline sexual risk behaviour. *Pediatrics,*

    130(6), 1489-1496. https://doi.org/10.1542/peds.2012-0842

Bayraktar, F., Barbovschi, M., & Kontrikova, V. (2016). Risky sociability and personal

    agency-offline meetings with online contacts among European children and

    adolescents. *Children and Youth Services Review*, *70*, 78-83.

    https://doi.org/10.1016/j.childyouth.2016.09.007

Beckett, M., Da Vanzo, J., Sastry, N., Panis, C., & Peterson, C. (2001). The quality of

    retrospective data: An examination of long-term recall in a developing

    country. *Journal of Human Resources*, *36*(3), 593-625.

    https://doi.org/10.2307/3069631

Beckmeyer, J. J., Herbenick, D., Fu, T. C., Dodge, B., Reece, M., & Fortenberry, J. D.

    (2019). Characteristics of adolescent sexting: Results from the 2015 national survey

    of sexual health and behavior. *Journal of Sex & Marital Therapy*, *45*(8), 767-780.

    https://doi.org/10.1080/0092623X.2019.1613463

Beebe, T. J., Asche, S. E., Harrison, P. A., & Quinlan, K. B. (2004). Heightened vulnerability

    and increased risk-taking among adolescent chat room users: Results from a state-

    wide school survey. *Journal of Adolescent Health*, *35*(2), 116-123.

    https://doi.org/10.1016/j.jadohealth.2003.09.012

Bernstein, S., Warburton, W., Bussey, K., & Sweller, N. (2023). Pressure, preoccupation, and

    porn: The relationship between internet pornography, gendered attitudes, and sexual

    coercion in young adults. *Psychology of Popular Media, 12*(2), 159–172.

    https://doi.org/10.1037/ppm0000393

Beyens, I., Vandenbosch, L., & Eggermont, S. (2015). Early adolescent boys' exposure to Internet pornography: Relationships to pubertal timing, sensation seeking, and academic performance. *The Journal of Early Adolescence*, *35*(8), 1045-1068. https://doi.org/10.1177/0272431614548069

Bonetti, L., Campbell, M. A., & Gilmore, L. (2010). The relationship of loneliness and social anxiety with children's and adolescents' online communication. *Cyberpsychology, Behaviour, and Social Networking*, *13*(3), 279-285. https://doi.org/10.1089/cyber.2009.0215

Bonino, S., Ciairano, S., Rabaglietti, E., & Cattelino, E. (2006). Use of pornography and self-reported engagement in sexual violence among adolescents. *European Journal of Developmental Psychology*, *3*(3), 265-288. https://doi.org/10.1080/17405620600562359

Bosak, D. A. (2012). Blurring line between victim and offender: Self-produced child pornography and the need for sentencing reform. *Ohio State Law Journal*, *73*(1), 141-176.

Botdorf, M., Rosenbaum, G. M., Patrianakos, J., Steinberg, L., & Chein, J. M. (2017). Adolescent risk-taking is predicted by individual differences in cognitive control over emotional, but not non-emotional, response conflict. *Cognition and Emotion*, *31*(5), 972-979. https://doi.org/10.1080/02699931.2016.1168285

Bougheas, S., Nieboer, J., & Sefton, M. (2013). Risk-taking in social settings: Group and peer effects. *Journal of Economic Behavior & Organization*, *92*, 273-283. https://doi.org/10.1016/j.jebo.2013.06.010

Branley, D. B., & Covey, J. (2018). Risky behaviour via social media: The role of reasoned and social reactive pathways. *Computers In Human Behavior*, *78,* 183-191. https://doi.org/10.1016/j.chb.2017.09.036

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, *21*(1), 37-47. https://doi.org/10.1002/capr.12360

Braun-Courville, D. K., & Rojas, M. (2009). Exposure to sexually explicit web sites and adolescent sexual attitudes and behaviors. *Journal of Adolescent Health*, *45*(2), 156-162. https://doi.org/10.1016/j.jadohealth.2008.12.004

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Brown, J. D., & L'Engle, K. L. (2009). X-rated: Sexual attitudes and behaviors associated with US early adolescents' exposure to sexually explicit media. *Communication Research*, *36*(1), 129-151. https://doi.org/10.1177/0093650208326465

Bruggeman, H., Van Hiel, A., Van Hal, G., & Van Dongen, S. (2019). Does the use of digital media affect psychological well-being? An empirical test among children aged 9 to 12. *Computers in Human Behavior*, *101*, 104-113. https://doi.org/10.1016/J.CHB.2019.07.015

Buhi, E. R., Klinkenberger, N., McFarlane, M., Kachur, R., Daley, E. M., Baldwin, J., Blunt, H. D., Hughes, S., Wheldon, C. W. & Rietmeijer, C. (2013). Evaluating the

Internet as a sexually transmitted disease risk environment for teens: Findings from the communication, health, and teens study. *Sexually Transmitted Diseases*, *40*(7), 528-533. https://doi.org/10.1097/OLQ.0b013e31829413f7

Burck, C. (2005). Comparing qualitative research methodologies for systemic research: The use of grounded theory, discourse analysis and narrative analysis. *Journal of Family Therapy*, *27*(3), 237-262. https://doi.org/10.1111/j.1467-6427.2005.00314.x

Burén, J., & Lunde, C. (2018). Sexting among adolescents: A nuanced and gendered online challenge for young people. *Computers in Human Behavior*, *85*, 210-217. https://doi.org/10.1016/j.chb.2018.02.003

Butler, N., Quigg, Z., & Bellis, M. A. (2020). Cycles of violence in England and Wales: The contribution of childhood abuse to risk of violence revictimisation in adulthood. *BMC Medicine*, *18*(325), 1-13. https://doi.org/10.1186/s12916-020-01788-3

Buzi, R. S., Smith, P. B., & Barrera, C. (2015). Talk with Tiff: Teen's inquiries to a sexual health website. *Journal of Sex & Marital Therapy*, *41*(2), 126-133. https://doi.org/10.1016/j.jadohealth.2013.10.113

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin*, *125*(3), 367-383. http://dx.doi.org/10.1037/0033-2909.125.3.367

Cameron, K. A., Salazar, L. F., Bernhardt, J. M., Burgess-Whitman, N., Wingood, G. M., & DiClemente, R. J. (2005). Adolescents' experience with sex on the web: Results from online focus groups. *Journal of Adolescence*, *28*(4), 535-540. https://doi.org/10.1016/j.adolescence.2004.10.006

CEOP (2000). Retrieved March, 15, 2018 from https://www.ceop.police.uk/safety-centre/

Chein, J., Albert, D., O'Brien, L., Uckert, K., & Steinberg, L. (2011). Peers increase adolescent risk taking by enhancing activity in the brain's reward circuitry. *Developmental Science, 14*(2), 1-16. https://doi.org/10.1111/j.1467-7687.2010.01035.x

Chiu, J., & Quayle, E. (2022). Understanding online grooming: An interpretative phenomenological analysis of adolescents' offline meetings with adult perpetrators. *Child Abuse & Neglect*, *128*, [105600]. https://doi.org/10.1016/j.chiabu.2022.105600

Cipolletta, S., Malighetti, C., Cenedese, C., & Spoto, A. (2020). How can adolescents benefit from the use of social networks? The iGeneration on Instagram. *International Journal of Environmental Research and Public Health, 17*(19), 6952-6067. https://doi.org/10.3390/ijerph17196952

Clement, J. (2020). *Most popular social networks worldwide as of April 2020, ranked by number of active users*. Accessed June 29th, 2020, from https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

Cohn, A., & Richters, J. (2013). 'My vagina makes funny noises': Analysing online forums to assess the real sexual health concerns of young people. *International Journal of Sexual Health*, *25*(2), 93-103. https://doi.org/10.1080/19317611.2012.719852

Council on Communications and Media, & MBE. (2016). Media use in school-aged children and adolescents. *Pediatrics, 138*(5), Article e20162592. https://doi.org/10.1542/peds.2016-2592

Crone, E. A., & Konijn, E. A. (2018). Media use and brain development during adolescence. *Nature Communications*, *9*(1), Article 588. https://doi.org/10.1038/s41467-018-03126-x

Cruwys, T., Greenaway, K., Ferris, L. J., Rathbone, J., Saeri, A. K., Williams, E., Parker, S. P., Chang, X. L. M., Croft, N., Bingley, W., & Grace, L. (2020). When trust goes wrong: A social identity model of risk taking. *Journal of Personality and Social Psychology: Interpersonal Relations and Group Processes, 120*(1), 57-83. https://doi.org/10.1037/pspi0000243

Daneback, K., Ševčíková, A., & Ježek, S. (2018). Exposure to online sexual materials in adolescence and desensitization to sexual content. *Sexologies*, *27*(3), 71-76. https://doi.org/10.1016/j.sexol.2018.04.001

Daniels, E. A., & Zurbriggen, E. L. (2016). "It's not the right way to do stuff on Facebook:" An investigation of adolescent girls' and young women's attitudes toward sexualized photos on social media. *Sexuality & Culture*, *20*(4), 936-964. https://doi.org/10.1007/s12119-016-9367-9

De Sousa, A., & Lodha, P. (2017). Neurobiology of pornography addiction–A clinical review. *Telangana Journal of Psychiatry*, *3*(2), 66-70. https://doi.org/10.18231/2455-8559.2017.0016

DeCoster, J., & Claypool, H. (2004). Data analysis in SPSS. Retrieved April 4th 2023 from http://www.stat-help.com/notes.html

DeHaan, S., Kuper, L. E., Magee, J. C., Bigelow, L., & Mustanski, B. S. (2013). The interplay between online and offline explorations of identity, relationships, and sex: A mixed-methods study with LGBT youth. *Journal of Sex Research*, *50*(5), 421-434. https://doi.org/10.1080/00224499.2012.661489

Denzin, N., & Lincoln, Y. S. (Eds.). (2005). *Introduction: The Discipline and Practice of Qualitative Research.* In The Sage Handbook of Qualitative Research (3rd ed., pp. 1-32). Thousand Oaks, CA: Sage Publications.

Department for Education (2021). *Keeping children safe in education 2021; Statutory guidance for schools and colleges.*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021914/KCSIE_2021_September_guidance.pdf Retrieved August 17th, 2022.

Dir, A. L., Bell, R. L., Adams, Z. W., & Hulvershorn, L. A. (2017). Gender differences in risk factors for adolescent binge drinking and implications for intervention and prevention. *Frontiers in Psychiatry*, *8*(289), 1-17.
https://doi.org/10.3389/fpsyt.2017.00289

Dixon, S. (2022). Social media usage among children in the United Kingdom (UK) 2020.
https://www.statista.com/statistics/415138/social-media-usage-among-children-uk
Retrieved August 8th, 2022.

Dixon, S. (2022). UK children social media presence and usage 2021, by age group.
Retrieved February 10th, 2023, from https://www.statista.com/statistics/1301863/uk-children-social-media-presence-and-usage-by-age/#statisticContainer

Dombrowski, S. C., LeMasney, J. W., Ahia, C. E., & Dickson, S. A. (2004). Protecting children from online sexual predators: Technological, psychoeducational, and legal considerations. *Professional Psychology: Research and Practice*, *35*(1), 65-73.
http://dx.doi.org/10.1037/0735-7028.35.1.65

Doornwaard, S. M., Bickham, D. S., Rich, M., ter Bogt, T. F., & van den Eijnden, R. J. (2015). Adolescents' use of sexually explicit internet material and their sexual

attitudes and behavior: Parallel development and directional effects. *Developmental Psychology*, *51*(10), 1476-1488. https://doi.org/10.1037/dev0000040

Doornwaard, S. M., den Boer, F., Vanwesenbeeck, I., van Nijnatten, C. H., Ter Bogt, T. F., & van den Eijnden, R. J. (2017). Dutch adolescents' motives, perceptions, and reflections toward sex-related internet use: Results of a web-based focus-group study. *The Journal of Sex Research*, *54*(8), 1038-1050. https://doi.org/10.1080/00224499.2016.1255873

Doornwaard, S. M., van den Eijnden, R. J., Overbeek, G., & ter Bogt, T. F. (2015). Differential developmental profiles of adolescents using sexually explicit internet material. *The Journal of Sex Research*, *52*(3), 269-281. https://doi.org/10.1080/00224499.2013.866195

Dowell, E. B., Burgess, A. W., & Cavanaugh, D. J. (2009). Clustering of internet risk behaviours in a middle school student population. *Journal of School Health*, *79*(11), 547-553. https://doi.org/10.1111/j.1746-1561.2009.00447.x

Eleuteri, S., Saladino, V., & Verrastro, V. (2017). Identity, relationships, sexuality, and risky behaviors of adolescents in the context of social media. *Sexual and Relationship Therapy*, *32*(3-4), 354-365. https://doi.org/10.1080/14681994.2017.1397953

Epps, B., Markowski, M., & Cleaver, K. (2023). A rapid review and narrative synthesis of the consequences of non-inclusive sex education in UK schools on lesbian, gay, bisexual, transgender and questioning young people. *The Journal of School Nursing*, *39*(1), 87-97. https://doi.org/10.1177/10598405211043394

Evers, C. W., Albury, K., Byron, P., & Crawford, K. (2013). Young people, social media, social network sites and sexual health communication in Australia: "This is funny,

you should watch it". *International Journal of Communication*, *7*(1), 263-280. https://ijoc.org/index.php/ijoc/article/viewFile/1106/853

Fardouly, J., Magson, N. R., Johnco, C. J., Oar, E. L., & Rapee, R. M. (2018). Parental control of the time preadolescents spend on social media: Links with preadolescents' social media appearance comparisons and mental health. *Journal of Youth and Adolescence*, *47*(7), 1456-1468. https://doi.org/10.1007/s10964-018-0870-1

Fernández-Teruel, A. (2021). Conflict between threat sensitivity and sensation seeking in the adolescent brain: Role of the hippocampus, and neurobehavioural plasticity induced by pleasurable early enriched experience. *Brain Sciences*, *11*(2), 268. https://doi.org/10.3390/brainsci11020268

Ferrari, R. (2015). Writing narrative style literature reviews. *Medical Writing*. 24. 230-235. https://doi.org/10.1179/2047480615Z.000000000329.

Finkelhor, D., Walsh, K., Jones, L., Mitchell, K., & Collier, A. (2021). Youth internet safety education: Aligning programs with the evidence base. *Trauma, Violence, & Abuse*, *22*(5), 1233–1247. https://doi.org/10.1177/1524838020916257

Flood, M. (2009). The harms of pornography exposure among children and young people. *Child Abuse Review: Journal of the British Association for the Study and Prevention of Child Abuse and Neglect*, *18*(6), 384-400. https://doi.org/10.1002/car.1092

Foubert, J. D., Brosi, M. W., & Bannon, R. S. (2011). Pornography viewing among fraternity men: Effects on bystander intervention, rape myth acceptance and behavioral intent to commit sexual assault. *Sexual Addiction & Compulsivity*, *18*(4), 212-231. https://doi.org/10.1080/10720162.2011.625552

Frith, H., & Kitzinger, C. (2001). Reformulating sexual script theory: Developing a discursive psychology of sexual negotiation. *Theory & Psychology*, *11*(2), 209-232. https://doi.org/10.1177/0959354301112004

Fusch P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20*(9), Article 3. https://doi.org/10.46743/2160-3715/2015.2281

Gagnon, J. H., & Simon, W. (1973). *Sexual Conduct: The Social Sources of Human Sexuality* (2nd ed.). Routledge. New York.

Galvan, A., Hare, T., Voss, H., Glover, G., & Casey, B. J. (2007). Risk-taking and the adolescent brain: Who is at risk? *Developmental Science*, *10*(2), 8-14. https://doi.org/10.1111/j.1467-7687.2006.00579.x

Gámez-Guadix, M., & Mateos-Pérez, E. (2019). Longitudinal and reciprocal relationships between sexting, online sexual solicitations, and cyberbullying among minors. *Computers in Human Behavior*, *94*, 70-76. https://doi.org/10.1016/j.chb.2019.01.004

Garcia Saiz, E., Sarda, V., Pletta, D. R., Reisner, S. L., & Katz-Wise, S. L. (2021). Family functioning as a protective factor for sexual risk behaviors among gender minority adolescents. *Archives of Sexual Behavior*, *50*, 3023-3033. https://doi.org/10.1007/s10508-021-02079-5

Garton, S., & Copland, F. (2010). 'I like this interview; I get cakes and cats!': The effect of prior relationships on interview talk. *Qualitative Research, 10*(5), 533–551. https://doi.org/10.1177/1468794110375231

Gassó, A. M., Klettke, B., Agustina, J. R., & Montiel, I. (2019). Sexting, mental health, and

victimization among adolescents: A literature review. *International Journal of*

Environmental Research and Public Health, *16*(13), Article e2364.

https://doi.org/10.3390/ijerph16132364

Gesser-Edelsburg, A., & Arabia, M. A. E. (2018). Discourse on exposure to pornography

content online between Arab adolescents and parents: Qualitative study on its impact

on sexual education and behavior. *Journal of Medical Internet Research*, *20*(10), 1-

13. https://doi:10.2196/11667

Giustino, T. F., & Maren, S. (2015). The role of the medial prefrontal cortex in the

conditioning and extinction of fear. *Frontiers in Behavioral Neuroscience*, *9*(298), 1-

20. https://doi.org/10.3389/fnbeh.2015.00298

Glaser, B. G. and Strauss, A. C. (1967) The Discovery of Grounded Theory: *Strategies for*

Qualitative Research. Chicago, IL: Aldine.

Gómez, P., Harris, S. K., Barreiro, C., Isorna, M., & Rial, A. (2017). Profiles of internet use

and parental involvement, and rates of online risks and problematic Internet use

among Spanish adolescents. *Computers in Human Behavior*, *75*, 826-833.

https://doi.org/10.1016/j.chb.2017.06.027

Green S. (2005) Systematic reviews and meta-analysis. *Singapore Med J. 46*(6), 270-273.

Greenleaf, A. R., Turke, S. R., Bazié, F., Sawadogo, N., Guiella, G., & Moreau, C. (2021).

Interviewing the interviewers: Perceptions of interviewer–respondent familiarity on

survey process and error in burkina faso. *Field Methods, 33*(2), 107–124.

https://doi.org/10.1177/1525822X20981493

Griffiths, M. D., & Parke, J. (2010). Adolescent gambling on the Internet: A review. *International Journal of Adolescent Medicine and Health*, *22*(1), 59-75.

Griffiths, M., & Wood, R. T. (2000). Risk factors in adolescence: The case of gambling, videogame playing, and the Internet. *Journal of Gambling Studies*, *16*(2), 199-225. https://doi.org/10.1023/A:1009433014881

Gross, E. F. (2004). Adolescent Internet use: What we expect, what teens report. *Journal of Applied Developmental Psychology, 25*(6), 633-649. https://doi.org/10.1016/j.appdev.2004.09.005

Grubb, L. K., Alderman, E. M., Chung, R. J., Lee, J., Powers, M. E., Rahmandar, M. H., Upadhya, K. K. & Wallace, S. B. (2020). Barrier protection use by adolescents during sexual activity. *Pediatrics*, *146*(2), 1-15. https://doi.org/10.1542/peds.2020-007245

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82. https://doi.org/10.1177/1525822X05279903

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). Introduction to applied thematic analysis (pp. 2-21). In *Applied thematic analysis*. Sage publications.

Hagger, M. S., & Chatzisarantis, N. L. (2011). Never the twain shall meet? Quantitative psychological researchers' perspectives on qualitative research. *Qualitative Research in Sport, Exercise and Health*, *3*(3), 266-277. https://doi.org/10.1080/2159676X.2011.607185

Haidich, A. B. (2010). Meta-analysis in medical research. *Hippokratia*, *14*(Suppl 1), Article 29.

Harkness, E. L., Mullan, B., & Blaszczynski, A. (2015). Association between pornography

    use and sexual risk behaviors in adult consumers: A systematic

    review. *Cyberpsychology, Behavior, and Social Networking*, *18*(2), 59-71.

    https://doi.org/10.1089/cyber.2014.0343

Hart, P. (2016). Young people negotiating and maintaining boundaries in youth work

    relationships: Findings from an ethnographic study of youth clubs. *Journal of Youth*

    Studies, *19*(7), 869-884. https://doi.org/10.1080/13676261.2015.1112881

Haley, S. G., Tordoff, D. M., Kantor, A. Z., Crouch, J. M., & Ahrens, K. R. (2019). Sex

    education for transgender and non-binary youth: Previous experiences and

    recommended content. *The Journal of Sexual Medicine*, *16*(11), 1834-1848.

    https://doi.org/10.1016/j.jsxm.2019.08.009

Harvey, K. J., Brown, B., Crawford, P., Macfarlane, A., & McPherson, A. (2007). 'Am I

    normal?' Teenagers, sexual health and the internet. *Social Science & Medicine*, *65*(4),

    771-781. https://doi.org/10.1016/j.socscimed.2007.04.005

Harvey, P. (2020). Let's talk about porn: The perceived effect of online mainstream

    pornography on LGBTQ youth. In: Farris, D.N., Compton, D.R., Herrera, A.P. (eds).

    Gender, Sexuality and Race in the Digital Age. Springer, Cham.

    https://doi.org/10.1007/978-3-030-29855-5_3

Heary, C. & Hennessy, E. (2012). Focus groups versus individual interviews with children: A

    comparison of data. *The Irish Journal of Psychology*. 27. 58-68.

    https://doi.org/10.1080/03033910.2006.10446228.

Henderson, L. (2011). Sexting and sexual relationships among teens and young

    adults. *McNair Scholars Research Journal*, *7*(1), 31-39.

Hillier, L., Mitchell, K. J., & Ybarra, M. L. (2012). The Internet as a safety net: Findings

from a series of online focus groups with LGB and non-LGB young people in the

United States. *Journal of LGBT Youth*, *9*(3), 225-246.

https://doi.org/10.1080/19361653.2012.684642

Hollander, J. A. (2004). The social contexts of focus groups. *Journal of Contemporary

Ethnography*, *33*(5), 602-637. https://doi.org/10.1177/0891241604266988

Horner, S. D. (2000). Using focus group methods with middle school children. *Research in

Nursing & Health*, *23*(6), 510-517. https://doi.org/10.1002/1098-

240X(200012)23:6<510::AID-NUR9>3.0.CO;2-L

Hornor, G. (2020). Child and adolescent pornography exposure. *Journal of Pediatric Health

Care*, *34*(2), 191-199. https://doi.org/10.1016/j.pedhc.2019.10.001

Huang, G. C., Unger, J. B., Soto, D., Fujimoto, K., Pentz, M. A., Jordan-Marsh, M., &

Valente, T. W. (2014). Peer influences: The impact of online and offline friendship

networks on adolescent smoking and alcohol use. *Journal of Adolescent

Health*, *54*(5), 508-514. https://doi.org/10.1016/j.jadohealth.2013.07.001

Irani, E. (2019). The use of videoconferencing for qualitative interviewing: Opportunities,

challenges, and considerations. *Clinical Nursing Research*, *28*(1), 3-8.

https://doi.org/10.1177/1054773818803170

Johnson, P., & Gill, J. (2010). Research methods for managers. Conclusion: Resolving the

dilemmas in choosing a research strategy (pp.192-231). In *Research methods for

managers* (3rd edition). Sage publications.

Johnson, S. B., Blum, R. W., & Giedd, J. N. (2009). Adolescent maturity and the brain: The promise and pitfalls of neuroscience research in adolescent health policy. *Journal of Adolescent Health*, *45*(3), 216-221. https://doi.org/10.1016/j.jadohealth.2009.05.016

Jones, I., & Park, Y. (2015). Virtual worlds: Young children using the internet. In *Young children and families in the information age* (pp. 3-13). Springer.

Jones, L. M., Mitchell, K. J., & Finkelhor, D. (2012). Trends in youth internet victimization: Findings from three youth internet safety surveys 2000–2010. *Journal of adolescent Health, 50*(2), 179-186. https://doi.org/10.1016/j.jadohealth.2011.09.015

Kaplowitz, M. D., & Hoehn, J. P. (2001). Do focus groups and individual interviews reveal the same information for natural resource valuation? *Ecological Economics*, *36*(2), 237-247. https://doi.org/10.1016/S0921-8009(00)00226-3

Khan, T. H., & MacEachen, E. (2022). An alternative method of interviewing: Critical reflections on videoconference interviews for qualitative data collection. *International Journal of Qualitative Methods*, *21*, 1-12. https://doi.org/10.1144/16094069221090063

Kheswa, J. G., & Notole, M. (2014). The impact of pornography on adolescent males' sexual behaviour in the Eastern Cape, South Africa. A qualitative study. *Mediterranean Journal of Social Sciences*, *5*(20), 2831-2840. https://dx.doi.org/10.5901/mjss.2014.v5n20p2831

Khurana, A., Bleakley, A., Ellithorpe, M. E., Hennessy, M., Jamieson, P. E., & Weitz, I. (2019). Sensation seeking and impulsivity can increase exposure to risky media and moderate its effects on adolescent risk behaviors. *Prevention Science*, *20*(5), 776-787. https://doi.org/10.1007/s11121-019-0984-z

Koletić, G. (2017). Longitudinal associations between the use of sexually explicit material and adolescents' attitudes and behaviors: A narrative review of studies. *Journal of Adolescence*, *57*, 119-133. https://doi.org/10.1016/j.adolescence.2017.04.006

Kuper, L. E., & Mustanski, B. S. (2014). Using narrative analysis to identify patterns of Internet influence on the identity development of same-sex attracted youth. *Journal of Adolescent Research*, *29*(4), 499-532. https://doi.org/10.1177/0743558414528975

Kvardova, N., Smahel, D., Machackova, H., & Subrahmanyam, K. (2021). Who is exposed to harmful online content? The role of risk and protective factors among Czech, Finnish, and Spanish adolescents. *Journal of Youth and Adolescence*, *50*(12), 2294-2310. https://doi.org/10.1007/s10964-021-01422-2

Lakshmana, G., Kasi, S., & Rehmatulla, M. (2017). Internet use among adolescents: Risk-taking behaviour, parental supervision, and implications for safety. *Indian Journal of Social Psychiatry*, *33*(4), 297-304. https://doi.org/10.4103/0971-9962.218603

Landreneau, K. J., & Creek, W. (2009). Sampling strategies. *The Organisation of Transplant Professionals.* Accessed March 21st, 2023, from *https://www.natco1.org/assets/1/6/SamplingStrategies.pdf*

Lebedíková, M., Mýlek, V., Subrahmanyam, K., & Šmahel, D. (2022). Exposure to sexually explicit materials and feelings after exposure among adolescents in nine European countries: The role of individual factors and social characteristics. *Archives of Sexual Behavior*, *52*(1), 333-351. https://doi.org/10.1007/s10508-022-02401-9

Lee, M., Crofts, T., McGovern, A., & Milivojevic, S. (2015). Sexting among young people: Perceptions and practices. *Trends and Issues in Crime and Criminal Justice*, (508), 1-9.

Leininger, M. (1994). Evaluation criteria and critique of qualitative research studies. In J. Morse (Ed.). *Critical issues in qualitative research* (pp. 95-115). Sage.

Lewis, L., Somers, J. M., Guy, R., Watchirs-Smith, L., & Skinner, S. R. (2018). 'I see it everywhere': Young Australians unintended exposure to sexual content online. *Sexual Health*, *15*(4), 335-341. https://doi.org/10.1071/SH17132

Liau, A. K., Khoo, A., & Hwaang, P. (2005). Factors influencing adolescent's engagement in risky internet behaviour. *Cyber-Psychology & Behaviour*, *8*(6), 513-520. https://doi.org/10.1089/cpb.2005.8.513

Lim, M. S. C., Agius, P. A., Carrotte, E. R., Vella, A. M., & Hellard, M. E. (2017). Young Australians' use of pornography and associations with sexual risk behaviours. *Australian & New Zealand Journal of Public Health*, *41*(4), 438-443. https://doi-org.liverpool.idm.oclc.org/10.1111/1753-6405.12678

Lin, W. H., Liu, C. H., & Yi, C. C. (2020). Exposure to sexually explicit media in early adolescence is related to risky sexual behaviour in emerging adulthood. *PloS One*, *15*(4), Article e0230242. https://doi.org/10.1371/journal.pone.0230242.

Lippman, J. R., & Campbell, S. W. (2014). 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. *Journal of Children and Media*, *8*(4), 371-386. https://doi.org/10.1080/17482798.2014.923009

Livingstone, S. (2008). Taking risky opportunities in youthful content creation: Teenagers' use of social networking sites for intimacy, privacy and self- expression. *New Media & Society*, *10*(3), 393-411. https://doi.org/10.1177%2F1461444808089415

Livingstone, S., & Helsper, E. J. (2007). Taking risks when communicating on the Internet: The role of offline social-psychological factors in young people's vulnerability to online risks. *Information, Communication & Society*, *10*(5), 619-644. https://doi.org/10.1080/13691180701657998

Livingstone, S., & Helsper, E. J. (2008). Parental mediation of children's internet use. *Journal of Broadcasting & Electronic Media*, *52*(4), 581-599. http://dx.doi.org/10.1080/08838150802437396

Livingstone, S., & Helsper, E. J. (2010). Balancing opportunities and risks in teenagers' use of the internet: The role of online skills and internet self-efficacy. *New Media & Society*, *12*(2), 309-329. https://doi.org/10.1177/1461444809342697

Lo, V. H., & Wei, R. (2005). Exposure to Internet pornography and Taiwanese adolescents' sexual attitudes and behavior. *Journal of Broadcasting & Electronic Media*, *49*(2), 221-237. https://doi.org/10.1207/s15506878jobem4902_5

Lorenz, B., Kikkas, K., & Laanpere, M. (2012). Comparing children's e-safety strategies with guidelines offered by adults. *Electronic Journal of e-Learning*, *10*(3), 326-338.

Luder, M. T., Pittet, I., Berchtold, A., Akré, C., Michaud, P. A., & Surís, J. C. (2011). Associations between online pornography and sexual behavior among adolescents: Myth or reality? *Archives of sexual behavior*, *40*, 1027-1035. https://doi.org/10.1007/s10508-010-9714-0

Maas, M. K., Bray, B. C., & Noll, J. G. (2019). Online sexual experiences predict subsequent sexual health and victimization outcomes among female adolescents: A latent class analysis. *Journal of Youth and Adolescence*, *48*(5), 837-849. https://doi.org/10.1007%2Fs10964-019-00995-3

Maczewski, M. (2002). Exploring identities through the Internet: Youth experiences online. *Child and Youth Care Forum*, *31*(2), 111-129. https://doi.org/10.1023/A:1015322602597

Madigan, S., Villani, V., Azzopardi, C., Laut, D., Smith, T., Temple, J. R., Browne, D. & Dimitropoulos, G. (2018). The prevalence of unwanted online sexual exposure and solicitation among youth: A meta-analysis. *Journal of Adolescent Health*, *63*(2), 133-141. https://doi.org/10.1016/j.jadohealth.2018.03.012

Magee, J. C., Bigelow, L., DeHaan, S., & Mustanski, B. S. (2012). Sexual health information seeking online: A mixed-methods study among lesbian, gay, bisexual, and transgender young people. *Health Education & Behavior*, *39*(3), 276-289. https://doi.org/10.1177/1090198111401384

Maheux, A. J., Evans, R., Widman, L., Nesi, J., Prinstein, M. J., & Choukas-Bradley, S. (2020). Popular peer norms and adolescent sexting behavior. *Journal of Adolescence*, *78*, 62-66. https://doi.org/10.1016/j.adolescence.2019.12.002

Marcum, C. D., Higgins, G. E., Freiburger, T. L., & Ricketts, M. L. (2010). Policing possession of child pornography online: Investigating the training and resources dedicated to the investigation of cyber crime. *International Journal of Police Science & Management*, *12*(4), 516-525. https://doi.org/10.1350/ijps.2010.12.4.201

Markham, C. M., Tortolero, S. R., Escobar-Chaves, S. L., Parcel, G. S., Harrist, R., & Addy, R. C. (2003). Family connectedness and sexual risk-taking among urban youth attending alternative high schools. *Perspectives on Sexual and Reproductive Health*, *35*(4), 174-179. https://doi.org/10.1363/psrh.35.174.03

Marret, M. J., & Choo, W. Y. (2018). Victimization after meeting with online acquaintances: a cross-sectional survey of adolescents in Malaysia. *Journal of Interpersonal Violence*, *33*(15), 2352-2378. https://doi.org/10.1177/0886260515625502

Marshall, E. A., Miller, H. A., & Bouffard, J. A. (2021). Bridging the theoretical gap: Using sexual script theory to explain the relationship between pornography use and sexual coercion. *Journal of Interpersonal Violence*, *36*(9-10), NP5215-NP5238. https://doi.org/10.1177/0886260518795170

Martellozzo, E., Monaghan, A., Davidson, J., & Adler, J. (2020). Researching the affects that online pornography has on UK adolescents aged 11 to 16. *Sage Open*, *10*(1), 1-11. https://doi.org/10.1177/2158244019899462

Memon, A. M., Sharma, S. G., Mohite, S. S., & Jain, S. (2018). The role of online social networking on deliberate self-harm and suicidality in adolescents: A systematized review of literature. *Indian Journal of Psychiatry*, *60*(4), 384-392. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_414_17

Mitchell, K. J., Finkelhor, D., & Wolak, J. (2001). Risk factors for and impact of online sexual solicitation of youth. *Jama*, *285*(23), 3011-3014. https://doi.org/10.1001/jama.285.23.3011

Mitchell, K. J., Finkelhor, D., & Wolak, J. (2007). Youth Internet users at risk for the most serious online sexual solicitations. *American Journal of Preventative Medicine*, *32*(6), 532-537. https://doi.org/10.1016/j.amepre.2007.02.001

Monks, H., Barnes, A., Cross, D., & McKee, H. (2019) A qualitative exploration of electronic image sharing among young people: Navigating the issues of conformity, trust, intention, and reputation. *Health Education & Behaviour*, *46*(2), 106-113. https://doi.org/10.1177/1090198119873921

Mori, C., Temple, J. R., Browne, D., & Madigan, S. (2019). Association of sexting with

    sexual behaviors and mental health among adolescents: A systematic review and

    meta-analysis. *JAMA pediatrics*, *173*(8), 770-779.

    https://doi.org/10.1001/jamapediatrics.2019.1658

Muhaise, H., Ejiri, A. H., Muwanga-Zake, J. W. F., & Kareyo, M. (2020). The research

    philosophy dilemma for postgraduate student researchers. *International Journal of*

    Research and Scientific Innovation, 7(4), 202-204.

Mwita, K. (2022). Factors influencing data saturation in qualitative studies. *International*

    Journal of Research in Business and Social Science (2147-4478), *11*(4), 414-420.

    http://dx.doi.org/10.20525/ijrbs.v11i4.1776

National Youth Work Curriculum (2020). Accessed on May 15th, 2023, from,

    https://www.nya.org.uk/quality/curriculum/

Nelson, K. M., Carey, K. B., Scott-Sheldon, L. A., Eckert, T. L., Park, A., Vanable, P. A.,

    Ewart, C. A., & Carey, M. P. (2017). Gender differences in relations among perceived

    family characteristics and risky health behaviors in urban adolescents. *Annals of*

    Behavioural Medicine, *51*(3), 416-422. https://doi.org/10.1007/s12160-016-9865-x

Nesi, J., & Prinstein, M. J. (2019). In search of likes: Longitudinal associations between

    adolescents' digital status seeking and health-risk behaviors. *Journal of Clinical Child*

    & Adolescent Psychology, *48*(5), 740-748.

    https://doi.org/10.1080/15374416.2018.1437733

Nesi, J., Telzer, E. H., & Prinstein, M. J. (2020). Adolescent development in the digital media

    context. *Psychological Inquiry*, *31*(3), 229-234.

    https://doi.org/10.1080/1047840X.2020.1820219

Nicklin, L. L., Swain, E., & Lloyd, J. (2020). Reactions to unsolicited violent, and sexual, explicit media content shared over social media: Gender differences and links with prior exposure. *International Journal of Environmental Research and Public Health*, *17*(12), Article 4296. https://doi.org/10.3390/ijerph17124296

Nikken, P., & de Graaf, H. (2013). Reciprocal relationships between friends' and parental mediation of adolescents' media use and their sexual attitudes and behavior. *Journal of Youth and Adolescence*, *42*(11), 1696–1707. https://doi.org/10.1007/s10964-012-9873-5

Noll, J. G., Shenk, C. E., Barnes, J. E., & Putnam, F. W. (2009). Childhood abuse, avatar choices, and other risk factors associated with Internet-initiated victimization of adolescent girls. *Pediatrics*, *123*(6), 1078-1083. https://doi.org/10.1542/peds.2008-2983

Notten, N., & Nikken, P. (2016). Boys and girls taking risks online: A gendered perspective on social context and adolescents' risky online behavior. *New Media & Society*, *18*(6), 966-988. https://doi.org/10.1177/1461444814552379

NSPCC (2017). Ten years since the Byron Review: Are children safer in the digital world? London: NSPCC.

NSPCC (2018). Sexting. Retrieved March 15, 2018, from https://www.nspcc.org.uk/preventing-abuse/keeping-children-safe/sexting/

NSPCC (2022). Sexting: Advice for professionals. Retrieved May 03, 2023, from https://learning.nspcc.org.uk/research-resources/briefings/sexting-advice-professionals

NSPCC (2018). Retrieved March 15, 2018, from https://www.nspcc.org.uk/

O'Connell, R. (2003). A typology of child cybersexploitation and online grooming practices. *Cyberspace Research Unit*, University of Central Lancashire, 1-19.

Ofcom (2022). Children and parents: media use and attitudes report 2022. https://www.ofcom.org.uk/__data/assets/pdf_file/0024/234609/childrens-media-use-and-attitudes-report-2022.pdf Retrieved August 17th, 2022.

Owens, E. W., Behun, R. J., Manning, J. C., & Reid, R. C. (2012). The impact of Internet pornography on adolescents: A review of the research. *Sexual Addiction & Compulsivity*, *19*(1-2), 99-122. https://doi.org/10.1080/10720162.2012.660431

Papalia, N., Mann, E., & Ogloff, J. R. (2021). Child sexual abuse and risk of revictimization: Impact of child demographics, sexual abuse characteristics, and psychiatric disorders. *Child Maltreatment*, *26*(1), 74-86. https://doi.org/10.1177/1077559520932665

Pavlov, I. P. (1927). *Conditioned reflexes: an investigation of the physiological activity of the cerebral cortex.* Oxford Univ. Press.

Peter, J., & Valkenburg, P. M. (2006a). Adolescents' exposure to sexually explicit material on the Internet. *Communication Research*, *33*(2), 178-204. https://doi.org/10.1177/0093650205285369

Peter, J., & Valkenburg, P. M. (2006b). Adolescents' exposure to sexually explicit online material and recreational attitudes toward sex. *Journal of Communication*, *56*(4), 639-660. https://doi.org/10.1111/j.1460-2466.2006.00313.x

Peter, J., & Valkenburg, P. M. (2007). Adolescents' exposure to a sexualized media environment and their notions of women as sex objects. *Sex Roles*, *56*(5-6), 381-395. https://doi.org/10.1007/s11199-006-9176-y

Peter, J., & Valkenburg, P. M. (2008). Adolescents' exposure to sexually explicit internet material and sexual preoccupancy: A three-wave panel study. *Media Psychology*, *11*(2), 207-234. https://doi.org/10.1080/15213260801994238

Peter, J., & Valkenburg, P. M. (2009). Adolescents' exposure to sexually explicit internet material and sexual satisfaction: A longitudinal study. *Human Communication Research*, *35*(2), 171-194. https://doi.org/10.1111/j.1468-2958.2009.01343.x

Peter, J., & Valkenburg, P. M. (2010a). Processes underlying the effects of adolescents' use of sexually explicit internet material: The role of perceived realism. *Communication Research*, *37*(3), 375-399. https://doi.org/10.1177/0093650210362464

Peter, J., & Valkenburg, P. M. (2010b). Adolescents' use of sexually explicit Internet material and sexual uncertainty: The role of involvement and gender. *Communication Monographs*, *77*(3), 357-375. https://doi.org/10.1080/03637751.2010.498791

Peter, J., & Valkenburg, P. M. (2011). The influence of sexually explicit internet material on sexual risk behavior: A comparison of adolescents and adults. *Journal of Health Communication*, *16*(7), 750-765. https://doi.org/10.1080/10810730.2011.551996

Pilgrim, N. A., & Blum, R. W. (2012). Protective and risk factors associated with adolescent sexual and reproductive health in the English-speaking Caribbean: A literature review. *Journal of Adolescent Health*, *50*(1), 5-23. https://doi.org/10.1016/j.jadohealth.2011.03.004

Pittenger, S. L. (2016). *Predicting sexual revictimization in childhood and adolescence: A prospective examination using ecological systems theory*. The University of Nebraska-Lincoln.

Pittenger, S. L., Pogue, J. K., & Hansen, D. J. (2018). Predicting sexual revictimization in

    childhood and adolescence: A longitudinal examination using ecological systems

    theory. *Child Maltreatment*, *23*(2), 137-146.

    https://doi.org/10.1177/1077559517733813

Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research.

    Journal of Counselling Psychology, 52(2), 137-145.

    https://psycnet.apa.org/doi/10.1037/0022-0167.52.2.137

Popovac, M., & Hadlington, L. (2020). Exploring the role of egocentrism and fear of missing

    out on online risk behaviours among adolescents in South Africa. *International

    Journal of Adolescence and Youth*, *25*(1), 276-291.

    https://doi.org/10.1080/02673843.2019.1617171

Potenza, M. N., Wareham, J. D., Steinberg, M. A., Rugle, L., Cavallo, D. A., Krishnan-Sarin,

    S., & Desai, R. A. (2011). Correlates of at-risk/problem internet gambling in

    adolescents. *Journal of the American Academy of Child & Adolescent

    Psychiatry*, *50*(2), 150-159. https://doi.org/10.1016/j.jaac.2010.11.006

Prinstein, M. J., Nesi, J., & Telzer, E. H. (2020). Commentary: An updated agenda for the

    study of digital media use and adolescent development – Future directions following

    Odgers & Jensen (2020). *Journal of Child Psychology & Psychiatry*, *61*(3), 349-352.

    https://doi-org.liverpool.idm.oclc.org/10.1111/jcpp.13219

Puri, A., & Sharma, R. (2016). Internet usage, depression, social isolation and loneliness

    amongst adolescents. *Indian Journal of Health & Wellbeing*, *7*(10), 996-1003.

Rachman, S. (1967). Systematic desensitization. *Psychological Bulletin*, *67*(2), 93-103.

    https://psycnet.apa.org/doi/10.1037/h0024212

Radovic, A., Gmelin, T., Stein, B. D., & Miller, E. (2017). Depressed adolescents' positive

and negative use of social media. *Journal of Adolescence*, 55, 5-15.

https://doi.org.liverpool.idm.oclc.org/10.1016/j.adolescence.2016.12.002

Radzik, M., Sherer, S. & Neinstein, L. S. (2009). Psychosocial development in normal

adolescents. In Lawrence S. Neinstein, Catherine M. Gordon, Debra K. Katzman,

David S. Rosen (Eds.), *Handbook of adolescent health care* (pp. 14-17).

Philadelphia, PA: Lipppincott, Williams & Wilkins.

Rafla, M., Carson, N. J., & DeJong, S. M. (2014). Adolescents and the internet: What mental

health clinicians need to know. *Current Psychiatry Reports*, *16*, 1-10.

https://doi.org/10.1007/s11920-014-0472-x

Reid, D., & Weigle, P. (2014). Social media use among adolescents: Benefits and

risks. *Adolescent Psychiatry*, *4*(2), 73-80.

https://doi.org/10.2174/221067660402140709115810

Rice, E., Rhoades, H., Winetrobe, H., Sanchez, M., Montoya, J., Plant, A., & Kordic, T.

(2012). Sexually explicit cell phone messaging associated with sexual risk among

adolescents. *Pediatrics*, *130*(4), 667-673. https://doi.org/10.1542/peds.2012-0021

Rice, E., Winetrobe, H., Holloway, I., Montoya, J., Plant, A., & Kordic, T. (2015). Cell

phone internet access, online sexual solicitation, partner seeking, and sexual risk

behavior among adolescents. *Archives of Sexual Behavior*, 44(3), 755-763.

https://doi.org/10.1007/s10508-014-0366-3

Rikkers, W., Lawrence, D., Hafekost, J., & Zubrick, S. R. (2016). Internet use and electronic

gaming by children and adolescents with emotional and behavioural problems in

Australia–results from the second Child and Adolescent Survey of Mental Health and

Wellbeing. *BMC Public Health*, *16*(1), 1-16. https://doi.org/10.1186/s12889-016-3058-1

Roche, S., Otarra, C., Fell, I., Torres, C. B., & Rees, S. (2023). Online sexual exploitation of children in the Philippines: A scoping review. *Children and Youth Services Review*, *148,* 1-14. https://doi.org/10.1016/j.childyouth.2023.106861

Rodenhizer, K. A. E., & Edwards, K. M. (2019). The impacts of sexual media exposure on adolescent and emerging adults' dating and sexual violence attitudes and behaviors: A critical review of the literature. *Trauma, Violence, & Abuse*, *20*(4), 439-452. https://doi.org/10.1177/1524838017717745

Rodríguez-de-Dios, I., van Oosten, J. M., & Igartua, J. J. (2018). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior*, *82*, 186-198. https://doi.org/10.1016/j.chb.2018.01.012

Roiha, A., & Iikkanen, P. (2022). The salience of a prior relationship between researcher and participants: reflecting on acquaintance interviews. *Research Methods in Applied Linguistics*, *1*(1), 100003. https://doi.org/10.1016/j.rmal.2021.100003

Romer, D., Reyna, V. F., & Satterthwaite, T. D. (2017). Beyond stereotypes of adolescent risk taking: Placing the adolescent brain in developmental context. *Developmental Cognitive Neuroscience*, *27*, 19-34. https://doi.org/10.1016/j.dcn.2017.07.007

Ross, C. E., & Mirowsky, J. (1984). Socially-desirable response and acquiescence in a cross-cultural survey of mental health. *Journal of Health and Social Behavior*, *25,* 189-197. https://doi.org/10.2307/2136668

Ross, M. W., Rosser, B. S., McCurdy, S., & Feldman, J. (2007). The advantages and limitations of seeking sex online: A comparison of reasons given for online and offline sexual liaisons by men who have sex with men. *Journal of Sex Research*, *44*(1), 59-71. https://doi.org/10.1080/00224490709336793

Roy, P. (2020). Internet pornography usage among today's adolescents: Clinical implications, assessment, and management. *Indian Journal of Health*, *6*(1), 05-13.

Sasson, H., & Mesch, G. (2014). Parental mediation, peer norms and risky online behavior among adolescents. *Computers in Human Behavior*, *33*, 32-38. https://doi.org/10.1016/j.chb.2013.12.025

Sattar, R., Lawton, R., Panagioti, M. *&* Johnson, J., (2021). Meta-ethnography in healthcare research: A guide to using a meta-ethnographic approach for literature synthesis. *BMC Health Serv Res 21*(50), 1-13. https://doi.org/10.1186/s12913-020-06049-w

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Sauro, J., & Lewis, J. R. (2011, May). When designing usability questionnaires, does it hurt to be positive? In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 2215-2224).

Savoia, E., Harriman, N. W., Su, M., Cote, T., & Shortland, N. (2021). Adolescents' exposure to online risks: Gender disparities and vulnerabilities related to online behaviors. *International Journal of Environmental Research and Public Health*, *18*(11), Article 5786. https://doi.org/10.3390/ijerph18115786

Sawatsky, A. P., Ratelle, J. T., & Beckman, T. J. (2019). Qualitative research methods in

    medical education. *Anaesthesiology, 131*(1), 14-22.

    https://doi.org/10.1097/ALN.0000000000002728

Schoeps, K., Peris Hernández, M., Garaigordobil, M., & Montoya Castilla, I. (2020). Risk

    factors for being a victim of online grooming in adolescents. *Psicothema, 32*(1), 15-

    33. https://doi.org/10.7334/psicothema2019.179

Schubert, A., & Wurf, G. (2014). Adolescent sexting in schools: Criminalisation, policy

    imperatives, and duty of care. *Issues in Educational Research*, *24*(2), 190-111.

    https://search.informit.org/doi/10.3316/aeipt.205702

Ševčíková, A., Šerek, J., Macháčková, H., & Šmahel, D. (2013). Extent matters: Exposure to

    sexual material among Czech adolescents. *The Journal of Early Adolescence, 33*(8),

    1048-1071. https://doi.org/10.1177/0272431613483004

Shek, D. T., & Yu, L. (2016). Adolescent internet addiction in Hong Kong: Prevalence,

    change, and correlates. *Journal Of Pediatric and Adolescent Gynecology*, *29*(1), S22-

    S30. https://doi.org/10.1016/j.jpag.2015.10.005

Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016).

    The power of the like in adolescence: Effects of peer influence on neural and

    behavioral responses to social media. *Psychological Science*, *27*(7), 1027-1035.

    https://doi.org/10.1177/0956797616645673

Shin, W., & Ismail, N. (2014). Exploring the role of parents and peers in young adolescents'

    risk taking on social networking sites. *Cyberpsychology, Behaviour, and Social

    Networking*, *17*(9), 578-583. https://doi.org/10.1089/cyber.2014.0095

Simon, L., & Daneback, K. (2013). Adolescents' use of the internet for sex education: A thematic and critical review of the literature. *International Journal of Sexual Health*, *25*(4), 305-319. https://doi.org/10.1080/19317611.2013.823899

Simon, W., & Gagnon, J. H. (2003). Sexual scripts: Origins, influences and changes. *Qualitative Sociology*, *26*(4), 491-497. https://doi.org/10.1023/B:QUAS.0000005053.99846.e5

Sinković, M., Štulhofer, A., & Božić, J. (2013). Revisiting the association between pornography use and risky sexual behaviors: The role of early exposure to pornography and sexual sensation seeking. *Journal of Sex Research*, *50*(7), 633-641. https://doi.org/10.1080/00224499.2012.681403

Sisk, C. L., & Foster, D. L. (2004). The neural basis of puberty and adolescence. *Nature Neuroscience*, *7*(10), 1040-1047. https://doi.org/10.1038/nn1326

Smith, J.A. & Osborn, M. (2008) Interpretative Phenomenological Analysis. In: Smith, J.A., (Eds.), Qualitative Psychology: A Practical Guide to Research Methods, (pp.53-80). Sage.

Smith, J. A. & Osborn, M. (2017). Interpretative Phenomenological Analysis. In. V., Eatough, & J. A., Smith, (Eds.). The Sage handbook of qualitative research in psychology (2nd ed., pp. 193-209). Sage Publications Ltd.

Smith, M. (2013). Youth viewing sexually explicit material online: Addressing the elephant on the screen. *Sexuality Research and Social Policy*, *10*(1), 62-75. https://doi.org/10.1007/s13178-012-0103-4

Somerville, L. H., Haddara, N., Sasse, S. F., Skwara, A. C., Moran, J. M., & Figner, B. (2019). Dissecting "peer presence" and "decisions" to deepen understanding of peer

influence on adolescent risky choice. *Child Development*, *90*(6), 2086-2103. https://doi.org/10.1111/cdev.13081

Spano, S. (2004). Stages of adolescent development. *ACT for Youth Upstate Center of Excellence*

Spear, L. P. (2000). The adolescent brain and age-related behavioral manifestations. *Neuroscience & Biobehavioral Reviews*, *24*(4), 417-463. https://doi.org/10.1016/S0149-7634(00)00014-2

Steinberg, L., Albert, D., Cauffman, E., Banich, M., Graham, S., & Woolard, J. (2008). Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: Evidence for a dual systems model. *Developmental Psychology*, *44*(6), 1764-1778. https://psycnet.apa.org/doi/10.1037/a0012955

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Journal of Cognitive Education and Psychology*, *2*(1), 55-87. https://doi.org/10.1891/194589501787383444

Steinfeld, N. (2021). Parental mediation of adolescent Internet use: Combining strategies to promote awareness, autonomy and self-regulation in preparing youth for life on the web. *Education and Information Technologies*, *26*(2), 1897-1920. https://doi.org/10.1007/s10639-020-10342-w

Stoilova, M., Livingstone, S., & Khazbak, R. (2021). Investigating risks and opportunities for children in a digital world: A rapid review of the evidence on children's internet use and outcomes. *Unicef Innocenti Discussion Paper 2020-03*.

Stone, A. A., & Shiffman, S. (2002). Capturing momentary, self-report data: A proposal for reporting guidelines. *Annals of Behavioral Medicine*, *24*(3), 236-243. https://doi.org/10.1207/S15324796ABM2403_09

Strauss, A., & Corbin, J. M. (1997). *Grounded theory in practice*. Sage.

Štulhofer, A., Buško, V., & Schmidt, G. (2012). Adolescent exposure to pornography and relationship intimacy in young adulthood. *Psychology & Sexuality*, *3*(2), 95-107. https://doi.org/10.1080/19419899.2010.537367

Suárez Álvarez, J., Pedrosa, I., Lozano, L. M., García Cueto, E., Cuesta Izquierdo, M., & Muñiz Fernández, J. (2018). Using reversed items in Likert scales: A questionable practice. *Psicothema, 30(2),* 149-158.

Subrahmanyam, K., Smahel, D., & Greenfield, P. (2006). Connecting developmental constructions to the internet: Identity presentation and sexual exploration in online teen chat rooms. *Developmental Psychology*, *42*(3), 395-406. https://psycnet.apa.org/doi/10.1037/0012-1649.42.3.395

Sullivan, J. R. (2012). Skype: An appropriate method of data collection for qualitative interviews. *The Hilltop Review*, *6*(1), Article 10.

Sun, C., Bridges, A., Johnson, J. A., & Ezzell, M. B. (2016). Pornography and the male sexual script: An analysis of consumption and sexual relations. *Archives of Sexual Behaviour*, *45*(4), 983-994. https://doi.org/10.1007/s10508-014-0391-2

Svedin, C. G., Åkerman, I., & Priebe, G. (2011). Frequent users of pornography. A population based epidemiological study of Swedish male adolescents. *Journal of Adolescence*, *34*(4), 779-788. https://doi.org/10.1016/j.adolescence.2010.04.010

Symons, K., Ponnet, K., Walrave, M., & Heirman, W. (2018). Sexting scripts in adolescent relationships: Is sexting becoming the norm? *New Media & Society, 20*(10), 3836-3857. https://doi.org/10.1177/1461444818761869

Tan, S. A., Ng, S. H. L., Hoo, J. J. Y., Gan, S. W., Nainee, S., Yap, C. C., Lee, L. K., Zaharim, N. M. & Goh, Y. S. (2022). The pornography use and its addiction among emerging adults in Malaysia: Perceived realism as a mediator. *Plos one*, *17*(5), Article e0268724. https://doi.org/10.1371/journal.pone.0268724

Tang, J., Yu, Y., Du, Y., Ma, Y., Zhang, D., & Wang, J. (2014). Prevalence of internet addiction and its association with stressful life events and psychological symptoms among adolescent internet users. *Addictive Behaviors*, *39*(3), 744-747. https://doi.org/10.1016/j.addbeh.2013.12.010

The Byron Review (2008). Retrieved March 10th, 2023, from https://publications.parliament.uk/pa/cm200708/cmhansrd/cm080327/wmstext/80327 m0001.htm#08032765000171

The Florida Senate (2022). Parental Rights in Education. https://www.flsenate.gov/Session/Bill/2022/1557 Retrieved August 18th, 2022.

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019a). Motivational processes and dysfunctional mechanisms of social media use among adolescents: A qualitative focus group study. *Computers in Human Behaviour*, *93*, 164-175. https://doi.org/10.1016/j.chb.2018.12.012

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019b). School-based prevention for adolescent internet addiction: Prevention is the key. A systematic literature review. *Current Neuropharmacology*, *17*(6), 507-525. https://doi.org/10.2174/1570159X16666180813153806

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019c). Motivational

processes and dysfunctional mechanisms of social media use among adolescents: A

qualitative focus group study. *Computers in Human Behaviour, 93*, 164–175.

https://doi-org.liverpool.idm.oclc.org/10.1016/j.chb.2018.12.012

Tian, L., Dong, X., Xia, D., Liu, L., & Wang, D. (2020). Effect of peer presence on

adolescents' risk-taking is moderated by individual self-esteem: An experimental

study. *International Journal of Psychology*, *55*(3), 373-379.

https://doi.org/10.1002/ijop.12611

Toloie-Eshlaghy, A., Chitsaz, S., Karimian, L., & Charkhchi, R. (2011). A classification of

qualitative research methods. *Research Journal of International Studies*, *20*(20), 106-

123.

Toma, C. L. (2014). Counting on friends: Cues to perceived trustworthiness in Facebook

profiles. *International Conference of Web and Social Media*, *8*(1) 495-504.

https://ojs.aaai.org/index.php/ICWSM/article/view/14509

Traffic Light Tool – Brook (n.d.). Retrieved May 1st, 2023, from wirralsafeguarding.co.uk

Turner, H. A., Finkelhor, D., & Colburn, D. (2023). Predictors of online child sexual abuse in

a US national sample. *Journal of Interpersonal Violence*, *38*(11-12), 1-24.

https://doi.org/10.1177/08862605221149090

UK Council for Child Internet Safety (UKCCIS). Retrieved March 8th, 2023, from

https://www.gov.uk/government/groups/uk- council-for-child-internet-safety-ukccis

Van Hoorn, J., Crone, E. A., & Van Leijenhorst, L. (2017). Hanging out with the right crowd:

Peer influence on risk-taking behavior in adolescence. *Journal of Research on*

Adolescence, *27*(1), 189-200. https://doi.org/10.1111/jora.12265

Van Ouytsel, J., Ponnet, K., Walrave, M., & d'Haenens, L. (2017). Adolescent sexting from a

    social learning perspective. *Telematics and Informatics*, *34*(1), 287-298.

    https://doi.org/10.1016/j.tele.2016.05.009

Van Ouytsel, J., Walrave, M., Lu, Y., Temple, J. R., & Ponnet, K. (2018). The associations

    between substance use, sexual behavior, deviant behaviors and adolescents'

    engagement in sexting: Does relationship context matter? *Journal of Youth and*

    Adolescence, *47*(11), 2353-2370. https://doi.org/10.1007/s10964-018-0903-9

Van Ouytsel, J., Walrave, M., & Ponnet, K. (2019). Sexting within adolescents' romantic

    relationships: How is it related to perceptions of love and verbal conflict? *Computers*

    in Human Behavior, *97*, 216-221. https://doi.org/10.1016/j.chb.2019.03.029

Van Ouytsel, J., Walrave, M., & Ponnet, K. (2020). Social media and risk: Sexting and

    grooming. *The International Encyclopaedia of Media Psychology*, *36(*55-59) 1-6.

    https://doi.org/10.1002/9781119011071.iemp0087

van Wely, M. (2014). The good, the bad and the ugly: Meta-analyses. *Human*

    Reproduction, *29*(8), 1622-1626. https://doi.org/10.1093/humrep/deu127

Vanderhoven, E., Schellens, T., Valcke, M., & Raes, A. (2014). How safe do teenagers

    behave on Facebook? An observational study. *PLoS ONE*, *9*(8), Article e104036.

    https://doi.org/10.1371/journal.pone.0104036

Vannucci, A., Simpson, E. G., Gagnon, S., & Ohannessian, C. M. (2020). Social media use

    and risky behaviors in adolescents: A meta-analysis. *Journal of Adolescence*, *79*, 258-

    274. https://doi.org/10.1016/j.adolescence.2020.01.014

Varghese, A. T. (2021). Sexually explicit materials among adolescents: Its prevalence and

    impact. *Social Work Chronicle*, *10*(1), 1-24.

Vijayakumar, N., de Macks, Z. O., Shirtcliff, E. A., & Pfeifer, J. H. (2018). Puberty and the human brain: Insights into adolescent development. *Neuroscience & Biobehavioral Reviews*, *92*, 417-436. https://doi.org/10.1016/j.neubiorev.2018.06.004

Walliman, N. (2021). *Research methods: The basics*. Routledge.

Walrave, M., Heirman, W., & Hallam, L. (2014). Under pressure to sext? Applying the theory of planned behaviour to adolescent sexting. *Behaviour & Information Technology*, *33*(1), 86-98. https://doi.org/10.1080/0144929X.2013.837099

Ward, A. (2017). *Adolescent identity formation and social media* (Doctoral dissertation, Canterbury Christ Church University).

Waterman, E. A., Wesche, R., Morris, G., Edwards, K. M., & Banyard, V. L. (2022). Prospective associations between pornography viewing and sexual aggression among adolescents. *Journal of Research on Adolescence*, *32*(4), 1612-1625. https://doi.org/10.1111/jora.12745

Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology, 3*(1), 1–14. https://doi.org/10.1037/h0069608

Weber, M., Quiring, O., & Daschmann, G. (2012). Peers, parents and pornography: Exploring adolescents' exposure to sexually explicit material and its developmental correlates. *Sexuality & Culture*, *16*, 408-427. https://doi.org/10.1007/s12119-012-9132-7

Weidberg, S., González-Roz, A., Fernández-Hermida, J. R., Martínez-Loredo, V., Grande-Gosende, A., García-Pérez, Á., & Secades-Villa, R. (2018). Gender differences among adolescent gamblers. *Personality and Individual Differences*, *125*, 38-43. https://doi.org/10.1016/j.paid.2017.12.031

Weinreb, A., Sana, M., & Stecklov, G. (2018). Strangers in the field: A methodological experiment on interviewer–respondent familiarity. *Bulletin of Sociological Methodology, 137–138*(1), 94–119. https://doi.org/10.1177/0759106318761562

White, C. M., Gummerum, M., & Hanoch, Y. (2015). Adolescents' and young adults' online risk taking: The role of gist and verbatim representations. *Risk Analysis: An International Journal*, *35*(8), 1407-1422. https://doi.org/10.1111/risa.12369

Whittle, H. C., Hamilton-Giachritsis, C. E., & Beech, A. R. (2015). A comparison of victim and offender perspectives of grooming and sexual abuse. *Deviant Behaviour, 36*(7), 539-564. https://doi.org/10.1080/01639625.2014.944074

Whittle, H., Hamilton-Giachritsis, C., Beech, A., & Collings, G. (2013a). A review of online grooming: Characteristics and concerns. *Aggression and Violent Behaviour*, *18*(1), 62-70. https://doi.org/10.1016/j.avb.2012.09.003

Whittle, H., Hamilton-Giachritsis, C., Beech, A., & Collings, G. (2013b). A review of young people's vulnerabilities to online grooming. *Aggression and Violent Behavior*, *18*(1), 135-146. https://doi.org/10.1016/j.avb.2012.11.008

Whittle, S. (1998). The trans-cyberian mail way. *Social & Legal Studies*, *7*(3), 389-408. https://doi.org/10.1177%2F096466399800700304

Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health, 58*(3), 323-329. https://doi.org/10.1016/j.jadohealth.2015.10.253

Williams, R., Elliott, I. A., & Beech, A. R. (2013). Identifying sexual grooming themes used by internet sex offenders. *Deviant Behaviour*, *34*(2), 135-152. https://doi.org/10.1080/01639625.2 012.707550

Wirral Safeguarding Children Partnership (n.d.). Multi-agency Thresholds. Retrieved 15
May 2023, from https://www.wirralsafeguarding.co.uk/multi-agency-thresholds/

Wisniewski, P., Jia, H., Xu, H., Rosson, M. B., & Carroll, J. M. (2015, February).
"Preventative" vs." Reactive" How Parental Mediation Influences Teens' Social
Media Privacy Behaviors. In *Proceedings of the 18th ACM conference on computer
supported cooperative work & social computing* (pp. 302-316).
https://doi.org/10.1145/2675133.2675293

Wolak, J., Mitchell, K. J., & Finkelhor, D. (2006). Online victimization of youth: Five years
later. *National Center for Missing & Exploited Children Bulletin.* Alexandria, VA

Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Unwanted and wanted exposure to online
pornography in a national sample of youth Internet users. *Paediatrics*, *119*(2), 247-
257. https://doi.org/10.1542/peds.2006-1891

Wolpe J. (1958) Psychotherapy by Reciprocal Inhibition. Stanford University Press, Stanford.

Wolpe, J. (1968). Psychotherapy by reciprocal inhibition. *Conditional Reflex: A Pavlovian
Journal of Research & Therapy*, *3*, 234-240. https://doi.org/10.1007/BF03000093

Wood, A. C., & Wheatcroft, J. M. (2020). Young adult perceptions of internet
communications and the grooming concept. *SAGE Open, 10*(1), 1-12,
https://doi.org/10.1177/2158244020914573

World Health Organisation (n.d.), Adolescent health, accessed June 29th, 2020, from
https://www.who.int/health-topics/adolescent-health/#tab=tab_1

Wright, P. J., & Štulhofer, A. (2019). Adolescent pornography use and the dynamics of
perceived pornography realism: Does seeing more make it more realistic? *Computers
in Human Behavior*, *95*, 37-47. https://doi.org/10.1016/j.chb.2019.01.024

Yao, M., Yao, M. Z., & Zhong, Z. (2014). Loneliness, social contacts and Internet addiction:
A cross-lagged panel study. *Computers in Human Behavior*, *30,* 164-170.
https://doi.org/10.1016/j.chb.2013.08.007

Ybarra, M. L., & Mitchell, K. J. (2005). Exposure to Internet pornography among children
and adolescents: A national survey. *Cyberpsychology & Behaviour*, *8*(5), 473-486.
https://doi.org/10.1089/cpb.2005.8.473

Yeung, T. H., Horyniak, D. R., Vella, A. M., Hellard, M. E., & Lim, M. S. (2014).
Prevalence, correlates and attitudes towards sexting among young people in
Melbourne, Australia. *Sexual Health*, *11*(4), 332-339.
https://doi.org/10.1071/SH14032

Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions:
Epistemological, theoretical, and methodological differences. *European Journal of
Education*, *48*(2), 311-325. https://doi.org/10.1111/ejed.12014

Youn, S. (2005). Teenagers' perceptions of online privacy and coping behaviors: A risk–
benefit appraisal approach. *Journal of Broadcasting & Electronic Media*, *49*(1), 86-
110. https://doi-org.liverpool.idm.oclc.org/10.1207/s15506878jobem4901_6

Zhou, Y., Li, D., Li, X., Wang, Y., & Zhao, L. (2017). Big five personality and adolescent
Internet addiction: The mediating role of coping style. *Addictive Behaviors*, *64*, 42-48.
https://doi.org/10.1016/j.addbeh.2016.08.009

Appendices

Appendix 1 – Study 2 parental information sheet

Study Title: An adolescent perspective of Internet risk and exposure to sensitive media.

Principle Investigators:

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Dear parent/carer,

My name is Amy Wood, and I am a PhD student studying psychology at the University of Liverpool. Your child has been invited to participate in a research study. Before you decide whether to give consent, it is important for you to understand why this research is being conducted and what it will involve. Please take time to read the following information carefully and feel free to ask if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends, family and child if you wish. We would like to stress that you do not have to accept this invitation and should only agree for your child to take part if you want them to. There will be NO implications if you choose not to take part.

What is the purpose of the study?

The aim of this study is to look at how young people use the internet, the risks that may be taken and the different types of media that they are exposed to. The interview will explore the different risk and protective factors that have an influence on internet behaviours and the things that young people are exposed to. It will also explore young people's perceptions of risk. The research will be

conducted with an interview between your child and the researcher and it will be recorded on a Dictaphone. Participation in this study should not last any more than 30 minutes in total.

Why has my child been chosen and do they have to take part?

Your child has been selected to take part in the study because they are a young person aged between 14 and 16 years of age who attend the centre.

Are there any risks to my child for taking part?

It should be noted that there are minimal perceived risks from taking part in the study. However, we will be asking sensitive interview questions about risk taking behaviours and exposure to different types of media on the internet, for example, viewing nude images or pornographic material. If you are concerned about your child being asked these questions, then you can say no to the research, and we will not ask your child to participate. The researcher is an experienced youth worker and has an up-to-date Enhanced Disclosure and Barring Service clearance. She is also trained in child protection and safeguarding procedures.

Do I have to do this?

Participation in this study is voluntary. It is your choice whether your child takes part in this study. I will ask your child if they are interested in taking part in the study and then approach you. If you do not consent, then your child will not take part in the study. If you agree to your child taking part, then we will give your child more information about the study and then gain their consent if they wish. We will only ask your child to consent to taking part if you say yes. You or your child can withdraw from the study up until the point of the data bring written up. After anonymisation, it is not possible to withdraw as your child's data will not be identifiable.

Will my child's participation be kept confidential?

The data collected will be anonymised and stored securely on the University secure system. The data will be stored for no longer than 10 years with only the researchers having access to it. All identifying information in the interviews will be anonymised. The interviews will be recorded, but after transcription, the audio recordings will be destroyed. All completed consent forms will be kept safely, and separate from the interviews, so that your child remains anonymous.

There is an exception to privacy. If your child discloses something that puts themselves or somebody else in danger. If this happens then the interview will be stopped, and the researcher will have to pass on the information. Your child and if appropriate, you, will be informed of the process and what is going to happen next. In the event that your child discloses something that the researcher feels puts them or somebody else in danger, then the researcher will have to tell somebody. If this happens, then some of the information that your child gives will be shared with others, for example, social care, the police, youth workers and where appropriate, yourself. Examples of information that will need to be passed on includes;

- Hurting themselves or others
- Excessive alcohol or drug use
- Suicidal thoughts
- Inappropriate or harmful sexual activity
- Physical, sexual, emotional abuse or neglect
- Criminal activity
- Criminal/sexual exploitation or grooming.

How will the information be used?

The interviews will be recorded on a Dictaphone and then transcribed by the researcher. The study will be written up as part of a dissertation thesis and will be published. Although there is no direct benefit to your or your child, the information gained may assist in developing early intervention programmes to work towards keeping children safe online.

What if I am unhappy or if there is a problem?

If you are unhappy, or you feel that there is a problem, please feel free to let us know by contacting Amy Wood on a.c.wood@liverpool.ac.uk and we will try to help. If you remain unhappy or have a complaint which you feel you cannot come to us with then you should contact the Research Governance Officer on 0151 794 8290 (ethics@liv.ac.uk). When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher(s) involved and the details of the complaint you wish to make.

Thank you for taking the time to read this.

Appendix 2 – Study 2 parental consent form

UNIVERSITY OF LIVERPOOL

Parental consent form

Study Title: An adolescent perspective of internet risk and exposure to sensitive media

Please initial box.

1. I confirm that I have read and have understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my child's participation is voluntary and that I am free to withdraw their information before the interviews have been anonymized (this means that my child will no longer be identifiable, therefore I cannot withdraw them after this point). I can withdraw without giving any reason, without my rights being affected.

3. I understand that, under the Data Protection Act 1998 and before anonymisation, I can ask for access to the information my child provides, and I can also request the destruction of that information if I wish. I understand that following the write up of the study, I will no longer be able to request access to or withdrawal of the information.

4. I understand that the information my child provides will be held securely and in line with data protection requirements at the University of Liverpool until it is fully anonymised.

5. I agree for the data my child provides to be archived at the end of the study. I understand that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.

6. I understand that signed consent forms and transcripts will be retained in locked offices of Dr Luna Centifanti until 10 years have passed, at which time they are destroyed.

7. I understand that if my child discloses something that indicates they or somebody else is in danger then this information will have to be passed on to the safeguarding lead at the facility.

8. I agree for my child to take part in the study.

_____   _____   _____

Childs name   Date   Signature

_____   _____   _____

Name of person giving consent   Date   Signature

_____   _____   _____

Researcher   Date   Signature

Appendix 3 – Study 2 participant information sheet

UNIVERSITY OF LIVERPOOL

Study Title: An adolescent perspective of Internet risk and exposure to sensitive media.

We would like you to help us with our research study explained below. I am conducting this study as part of my work as a research student at the University of Liverpool and not as your youth worker. The relationship that I have with you as a youth worker will not be the same when I am interviewing you. I will be interviewing you as a student of the University of Liverpool. This means that this research is completely separate from the work I do as part of my role at the youth hub. Therefore, it is really important that you read all of the information and understand my role. If you do not understand anything, have any questions or would like anything explaining then please let me know before you give consent. You will also be given the opportunity to speak to other youth workers before deciding to consent to take part in the study. You will know when I am in my role as a student because I will be wearing my student badge and not my work badge. The consent that you give is to a student at the university of Liverpool and not to a youth worker.

I am interested in young people's perceptions, their internet usage and their risk-taking behaviour. Please read this information carefully and talk to your parent, carer or youth worker about the study. Ask us if there is anything that is not clear or if you want to know more. Take time to decide if you want to take part. It is up to you if you want to do this. If you don't then that's fine, it won't affect your treatment at the youth hub or the support you get.

1.   Why are we doing this research?
We would like to know how and why young people use the internet and the different things that can affect their use. We would like to know what young people think about the internet and the things that they might make, view or share. We would also like to know how friendships and family relationships might affect your use of the internet and your online activities. We would also like to know the types of risks that young people take on the internet and what they think is risky.

2.   What do you have to do?
If you decide that you would like to take part in the interview, then you will be interviewed by the researcher. The researcher will ask you some questions and you can answer in as much or as little detail as you want to. If there are questions that you don't want to answer, then you don't have to. The researcher will record your voice so that she can type up the interview later.

3.   Why have you been chosen to take part?
You have been chosen to take part because you are between 13 and 16 years of age and because you attend a youth hub.

4.   Do I have to take part?

No, it is your choice if you take part or not. Once you have read the information, if you would like to take part then you will be asked to sign a consent form. After this, you are still free to stop taking part before, during or after the interview up until the point where the interviews have been anonymised. This is because we will not be able to identify which interview is yours.

5.   Is there anything to be worried about?

The questions that you will be asked will include questions about your family and friends, your internet usage and about any risks that you may take. You will be asked questions about viewing nude images and pornographic material. You do not have to answer all of the questions if you feel uncomfortable and you can stop the interview at any time. We can also take breaks in the interview if you want.

6.   Will the study help you?

The study may not help you personally, but we hope that the study will help us to understand how and why young people use the internet and how they can stay safe online. This study will allow you to reflect on what risk taking is to you.

7.   What if you are unhappy or if there is a problem?

If you are unhappy about something, you can speak to the person who is interviewing you, a parent/carer, a youth worker or a teacher. You can also ask an adult to contact the University of Liverpool. If you are worried about your risk taking, then we will provide some contacts to phone or access on your own time.

8.   Will my information be kept private?

All of the information you give and the things you say will be kept anonymous. You will be given a participant number, which means that you will be identified by a number and not your name, so people don't know who you are. Once the interviewer has finished the interview, she will type it up and then the audio recordings will be destroyed. Nobody will know it is you. The anonymized data will be stored on the universities secure database for 10 years and then it will be destroyed. Only the researchers will have access to it. Even though the interview is anonymous, if you tell the researcher something that she feels puts you or somebody else in danger, then she will have to tell somebody. The researcher will tell you if this is going to happen and explain the process. The researcher may pass information on to the police, social services, youth workers and parents.

The types of things that the researcher might pass on include;

- Hurting yourself or others
- Excessive alcohol or drug use
- Suicidal thoughts

- Inappropriate or harmful sexual activity
- Physical, sexual, emotional abuse or neglect
- Criminal activity
- Criminal/sexual exploitation or grooming.

Thank you for reading this. You can now ask the researcher any questions.

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Appendix 4 – Study 2 child consent form

UNIVERSITY OF LIVERPOOL

Study Title: An adolescent perspective of Internet risk and exposure to sensitive media.

I have read the information sheet dated   YES or NO

Do you understand what the study is about and what   YES or NO
the questionnaires you will answer are for?

Do you understand that the researcher, during the recruitment   YES or NO
process and the interviews is not a youth worker, but a student
at the university of Liverpool and therefore her role is completely
different and separate?

Do you understand the researcher's role?   YES or NO

Do you understand that the consent you give is not to a youth   YES or NO
worker but to a student at the university of Liverpool?

Do you understand how your information will be
used and why?   YES or NO

Do you understand that if you tell the researcher   YES or NO
something that she feels puts you or somebody else
in danger, then she will have to tell somebody like the police or social care?
Information that might get passed on could include;
- Hurting yourself or others
- Excessive alcohol or drug use
- Suicidal thoughts
- Inappropriate or harmful sexual activity
- Physical, sexual, emotional abuse or neglect
- Criminal activity
- Criminal/sexual exploitation or grooming.

Do you understand that you can withdraw and quit   YES or NO
(without any problems) up to the point
that the research is written up because after that,
we won't know who you are?

Do you understand that you don't have to answer all
of the questions?   YES or NO

Do you understand how the information will be kept
(locked offices/secure computers), by whom

(Dr Centifanti), and for how long (10 years)?   YES or NO

Do you understand your information will be shared with
other researchers but only in way that keeps your
information anonymous (not about you personally)?   YES or NO

Have you asked all the questions you wanted to?   YES or NO

Have you had your questions answered
in a way you understand?   YES or NO

Are you happy to take part?   YES or NO

If any answers are 'no' or you don't want to take part, don't sign your name.

If you do want to take part, you can write your name below

Your name: …………………………………………………………………………………....

Date: ………………………………………………………………………………………..

Appendix 5 – Study 2 debrief sheet.

Title of study: An adolescent perspective on internet risk and exposure to sensitive media.

Thank you for taking part in this interview. The reason why we did this interview is because we wanted to get your opinion on using the internet, social media and the things that you do online. We also wanted to know about your experiences on the internet, with your friends and with your family. We were interested in knowing if you have ever viewed, made or sent any types of sensitive media through the internet.

The aim of the study is to reduce risks on the internet and help young people to enjoy the internet safely. We aim to make some sessions to deliver to young people to help them understand internet dangers and stay safe online. We would like young people to feel confident to be able to tell an adult if they experience something negative online and know how to get help if they need to.

Thank you for your time and effort in this important research. If you would like to talk to somebody about the issues raised you can talk to a parent/carer, friend, youth worker, or teacher. You can also talk to the researcher on the details below.

If you are worried about anything that you have talked about you can contact any of the numbers or websites below.

- www.kooth.com – Free, safe and anonymous online support for young people.
- www.youngminds.org.uk – Supporting the wellbeing and mental health of young people.
- www.thinkuknow.co.uk – Educational advice and support to help young people stay safe online.
- Call Childline on 08001111 – Talk to somebody if you are worried.

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Appendix 6 – Study 2 interview schedule

An adolescent perspective of internet risk and exposure to sensitive media.

Interview schedule

This interview has been developed to explore the perceptions of young people on the topic of internet usage and risk.

Interviewer: Thank you very much for taking part today, I just want to tell you a few things before we start. The reason that I am conducting this interview is because I am interested in your experiences and your perceptions. The interview will take at least 30 minutes and up to an hour, however if you need a break or wish to stop at any time then this is ok, just let me know.

We are going to talk about your experiences online, you might find that you feel uncomfortable answering some of these questions. That is fine! Just let me know if you would rather skip a question. You can also stop the interview or leave at any point. If you decide afterwards that you don't want me to use your interview, then just email or phone me to let me know.

The interview will be recorded so that I can spend my time listening to you, but I may still take one or two notes, just to help me remember something I might want to ask you.

Everything you tell me is confidential, you will be anonymous throughout the research and any reports I write. I won't tell anyone that you took part in the research.

However, if you tell me something that I feel puts you or anyone else in danger then I will have to tell somebody else, If I have to do this you will be fully informed of what is going to happen. Do we have your permission for this?

Ok great can you now read and sign the two consent forms before we begin? Do you have any questions? OK great, we shall begin then.

1. Can I confirm your age/can you tell me your age?
2. In terms of gender, how do you identify?

3. Help me get a sense of [name], what do you like to do socially, can you tell me a little bit about your social life?
   Prompts…

   - Can you tell me more about…?
   - Friendship groups?

   - Social activities?

   - Relationships?

4. How often would you say you go online (every day etc),
   Prompts…

   - How many times do you go online each day?
   - How long do you spend online each day?

5. What do you tend to use the internet for?

6. Let's look at social media in particular,
   How often do you use Social Media?

   > ***Prompts…***

   - How many hours each time?

   - Is it daily, weekly or monthly?

   - What sites do you use?

   - What is your favourite?

7. What interests you about these sites?
   > ***Prompts…***

   - What do you use the sites for?
   - Peers?

   - Communication?

   - Finding out about other people?

   - Meeting new people?

8. People who use the internet share lots of different types of information about themselves, can you tell me what types of information you share on the internet about yourself?
   > ***Prompts…***

   - Name, address, bank details, date of birth, School etc?
   - How do you set your privacy settings on social media?
   - What types of information do you think is acceptable/not acceptable to share on the internet?
   - Why do you think this?

9. What type of conversations do you have on the internet?
   > ***Prompts…***

   - With people you don't know?

   - With friends?

   - What is the difference between these conversations?

   - Is it easier to talk to people you don't know?

   - Are you truthful when talking to people on the internet?

   - Do you use the internet to date, and potentially meet people that you haven't met in person first?

   - In your view, are virtual friends the same as your offline friends, or do you still consider them to be strangers?

10. Do you feel that you can trust the people that you meet online?
If yes… Can you tell me more about why you think this please?

>   *Prompts…*
>   - Do you have any online friends?
>   - What are their ages?
>   - What types of conversations do you have with them?
>   - At what point do you feel that you can trust them?
>   - Have you had a video call with them?

If no… Can you tell me more about this please?

>   *Prompts…*
>   - Why do you speak to them if you feel you can't trust them?
>   - What are their ages?
>   - What types of conversations do you have with them?
>   - Have you had a video call with them?

Let's start to think about possible risks that young people experience online.

11. One societal concern is that young people are overly exposed to sexual material online, it is too easily accessed, and it could impact on healthy sexual development. Do you agree with this or not?
    Prompts…
    - Can you draw on your experience to help explain your answer?

12. Another societal concern is sexting, what is your view on sexting?
    - Is it a risky thing to do or not?
    - What are the consequences?
    - Have your or your friends done it (sent/received)?
    - What can go wrong (revenge porn, having indecent images available online devastating effect on mental wellbeing)?

13. Have you heard of the term grooming?
    If yes… Can you tell me what it means to you?

    If no… How do you feel when you talk to people you don't know on the internet? Are you conscious of this when talking to others online?
    Prompts…
    - When you hear about young people developing romantic or sexual relationships with adults online, what comes to mind?
    - How does it make you feel?

14. You mentioned earlier that you did/did not use the internet for dating or meeting friends online. Have you ever arranged to meet someone that you first met online?
    If yes… Can you tell me a bit more about this please?

Prompts…
- Can you tell me what the reason was?
- Where they male/female?
- What was their age?
- Do you think that you could trust them?
- Did you go alone?
- Did you tell someone?
- Was it a positive/negative experience?
- How often do you/ have you done this?
- How old were you when you first did this?

If no…
Prompts…
- Have you done this in the past?
- Do you know anybody who has?
- Was this a positive or negative experience for them?
- Did they tell someone?

15. Some people think that doing things online is risky. Do you feel that you take any online risks?
    If yes...What type of online risks?

    Prompts...
    - Can you tell me more about why you take risks?
    - Do you take risks on your own or with friends?
    - Do your friends encourage you to take risks?
    - How do they make you feel?
    - Have they been positive or negative experiences?

    If no… What do you think is risky online?

    Prompts...
    - Privacy settings and personal information?
    - Online gambling?
    - Trolling and cyber harassment?

    Have you taken any risks in the past?

    Prompts...
    - What has changed?
    - Do your friends take risks?
    - Do your friends encourage you to take risks?

16. Some people think that what they do online could be classed as risky but they also get some benefits out of it too. Have you gotten any benefits, or can you tell me if you think that there are any benefits to taking risks online?

    If yes… can you tell me more about this, please?

    If no… can you tell me more about this, please?

17. We have spoken a bit about the negative aspects of being online. Can you help me understand the alternative point of view, where you've had really positive experiences online?

        <u>If yes</u>… Can you tell me more about this please?

        <u>If no</u>… Can you tell me more about this please?

        Prompts…

- Do you know anybody who has?

- What was the reason?

- Was it from strangers or people they knew?

18. Are there any particular things that you think make some people at risk online?

- Being lonely, having low self-confidence?

19. Are there any particular things that you can think of that make people less at risk online?
   - Having good social support?
   - Relationships with parents? Follow up and ask for further examples.

20. Self-worth and self-respect are essential for healthy development, do you think that the risks that young people face online impact on self-worth and self-respect? In what ways?

- Do you think that you are given enough guidance or acknowledgement (from schools, parents, peers) about these?
- What support would you like to see put in place for young people to help them develop self-worth, self-respect and healthy relationships,
- Is there anything that can be done to change the internet to help improve young peoples' self-worth and self-respect.

Self-worth definition - *Self-worth is the feeling that you have good qualities and have achieved good things.*

Self-respect definition - *A feeling of respect for yourself that shows that you value yourself.*

21. Is there any guidance or support that you think would help benefit young people about online risks?
   - What might this support look like,
   - Who would be best to deliver it (young people, parents, teachers, charities, police, online organisations)?

Interviewer: Ok thank you for answering the questions, the interview is now finished. Is there anything that you would like to ask me? Do you feel that you would like to talk to somebody about the issues raised? OK great, now I will continue with my research, however if you decide that you would like to withdraw from the study then you can contact me or my

supervisor on the details on the consent form. If you would like to read the study when it is finished, then you can contact us for a copy. I have made a debrief sheet for you explaining what you have taken part in, and this has the universities contact details on and also places that you can receive support if you wish. Thank you for your time and you are free to leave.

Appendix 7 – Study 2 superordinate theme 1

Normalisation of Sexualised Media and Behaviours		
Engaging with strangers, CSE, Grooming	**Prevalence and exposure to sexualised media**	**Perceptions of sexualised material**
Interview 1 "… but I follow some people who I don't, I do know but like." *(Ln. 82)* [Meeting new people on SM] "No" (Ln. 100) "I don't have conversations with people I don't know." (Ln. 151) "If I don't know the person I don't, well I don't know them, like, like their picture might not even be them. I don't know who they are, where they are, like stuff like that like I don't know who they are." (Ln. 161-463) "The only people I've got on my like social media are the people that I know in person." (Ln. 174-175) "I always like try to set an example, so like well it depends really because if it's some random person from the street then I'll just be like, just like, I'll try and end the conversation and like walk away. But like, there was some, like a lady with you before like I was speaking to her and she was like high and I was like yeah hi, like you alright and I was like yeah. But she's here so it's like oh its ok." (Ln. 259-263) "I don't speak to people online." (266)	**Interview 1** "Erm, I think like, I think it's more accessible than it should be. Like it's easy to get hold of." (Ln. 187-188) "Erm, well I don't know why but it just makes me think like, I think it happens loads, like celebrities like ish, will like post and it will say, blah de blah has just posted. So ill click on it to go and like it and be one of the first and the first comment will be like just a random person like on check out my profile and it's just like and then it's just there. Well, that's what I'm guessing." (Ln. 191-195) [knowing people who have engaged in sexting] "Yeah." (Ln. 211-216) "Erm, there's people who like make accounts, called like, it will be called like Wirral nudes or something and then people will like add it and then that person will just post a random like pictures and then put the person's name. but like they'll also do like, people send it in so then some, like someone will think oh yeah let's get a picture and say it's this person, so then this persons like oh that's not me. And then everyone's like oh my god that person did this, and the persons like oh no that wasn't me. So, it's like it happens to people who didn't as well….	**Interview 1** "I wouldn't do it [sexting]." (Ln. 206) "Erm, from my point of view, it's like people do it [sexting] and then the other person just screenshots it and sends it to everyone and everyone's like oh my god look what this person did and everyone's like oh my god why did they do that and then the persons like oh I don't know." (Ln. 208-210) Well, the other person can just screen shot it and then it goes everywhere. (Ln. 221). [Sexting] "Yeah, cos it would make, it would make you sad, coz like people are thinking bad of you." (Ln. 247-248) [Grooming] "I've heard of it, but I don't really know what it is… Something to do with men and kids. I don't know." (Ln. 255-257) "Like, if they took a risk and sent something and that went around and the person, they feel a lot like, oh I don't want to see people, like they'd have their head down and they feel worried in case someone said something." (Ln. 383-382)

"Well, it's kind of happened, not to me but I've been involved, not been involved but like I've heard it and the people like they weren't doing anything, so I'd be like why aren't you doing anything, and I was like." (Ln. 272-274) "Like so there's like someone our age whose telling me that somebody else is like speaking or meeting an adult and I was like oh you're going to have to do something, so I was like basically kept going on about her doing something or me doing something." (Ln. 279-281) "Like telling our… Mentor yeah. And so, I actually said that either you do it or I will, so she did and then everything was sorted. So, I think it's like it's a good thing to say something and sort it out." (Ln. 283-288) "I think yeah, I think I was more concerned as well coz it was the last day of the six weeks and I said we're not going to see her for six weeks and you don't know what's going to happen so that day everything got sorted and then the person who was meeting the man, is now she's like. Coz obviously it was in July and yeah, I'm glad you did it because I don't know what I was thinking. So, like it all gets sorted." (Ln. 291-295)	Yeah, well it doesn't really happen anymore it's like, I don't know like. There was one time this year where there was like twenty odd accounts, and everyone followed them…. but like everyone would screenshot the story so everyone's got pictures, some of them real some of them not and like you wouldn't know because there's like no face..." (Ln. 223-238) "As well as screenshotting the actual thing. So, like someone would screenshot the actual thing and say like months later there's account made, they think oh I remember that from march and then they'll send it in and then it gone round all over again. And then the other persons dealing with it in March and then again because this account's decided to post it as well." (Ln. 240-243)	
Interview 2	**Interview 2**	**Interview 2**
"Erm, probably snapchat, yeah [meeting new people]." (Ln. 97) "Erm, if they would ask who I am and all that, but I wouldn't,	"[sexualised media is easily accessed?] No…. Because erm I don't know, if they are being exposed then I think it's unfair" (Ln. 197-199)	"Erm, I think I do, but I don't [know what sexting is]." (Ln. 227)

like id either block them or if it was ruse or something or harassment id report them, yeah…I wouldn't message them…I would block them" (Ln. 137-143)

"Yeah, to my like friends but to people I don't know it's, yeah. I don't tell them anything really." (Ln. 161-162)

"Yeah, or if I know them in school ill speak to them personally [Internet for dating]" (Ln. 168)

"[Meeting someone off the internet] Not straight away but if I know them, yeah." (Ln. 170)

"Coz if like they've text me, I wouldn't know them so I wouldn't know if it's like them in person or I wouldn't know who it is, but if I'd know of them in person them id know what they're like, yeah." (Ln. 177-179)

"Not most of them [in person] but because they're all in my school I know them if you get me." (Ln. 187)

"Erm, I feel, I wouldn't feel myself really [speaking to strangers], like I'd be worried in case they like screenshotted the chat…Not trust them no." (273-278)

"Erm, if I didn't know then, I would probably wouldn't meet them." (Ln. 303)

"Probably like, if, I can't get it out. Probably like if erm, like if I didn't know them and I'd probably think it was a risk because you don't know who

"Yeah, if like weird people send it to you, they probably see it yeah." (Ln. 205)

"[your exposure] Like once or twice, yeah but someone I didn't know… Erm, messenger, like someone from a different country, or on probably snapchat yeah as well… Picture or yeah on text." (Ln. 208-213)

"Like erm, some of them on messenger say how old are you or stuff like that so like id block them straight away coz I don't know them. But if they send me a picture id like report it saying inappropriate and stuff yeah." (Ln. 215-217)

"On snapchat it will like come up with a name that they've sent you something. But if I don't know them, I'd probably block them straight away. But whereas like on messenger it will probably come up they've sent you a photo, so I'd like probably go on its coz I don't know what they've sent me but if it was that id block it straight away and like report it." (Ln. 219-222)

"People who I don't know really. But yeah, it has happened to someone in my school before… Erm, it was a picture like naked and yeah." (Ln. 242-245).

"Yeah actually…Not really but is has happened before but not for ages." (Ln. 253-257)

"In a way yeah coz if they, like if they've sent it to someone like you could get really thingyo for that [sexting] like it's just not nice really." (Ln. 231-232)

"It would probably spread around so once they've seen it, they'll probably send it to someone else and then if like it was in school everyone would probably know in school and then you would get like bullied and yeah, they make you not want to go to school probably…. [it's happened] to a person before." (Ln. 235-239)

"Probably depressed and all, yeah like make them give up and not really wanna do anything anymore. All like suicidal and that." (Ln. 260-261)

"I would think, I would probably think like, I can't get the word out, erm, probably think why they would like to speak to someone not their age. You don't know what they are going to be like or feel worried a bit." (Ln. 284-286)

"No, not really no…Because that adult could be using her to do things or yeah coz, she's young…Yeah, I wouldn't think it wasn't right really, I would think it was wrong." (Ln. 291-295)

they are or what they age is." (Ln. 313-314)

Interview 3

"No, I would meet them in real life" (Ln. 100)

"Like a while back, yeah, like I had TikTok. Erm, I was talking to this girl, and I said where I go to school, then I knew that I was wrong, so I tried to delete it, but I wasn't really happy, so I deleted it. So yeah, I don't really talk about like erm where I go to school that much." (Ln. 104-107)

"I haven't met before then I deleted her…Yeah it was just like my name, erm wasn't on there so she couldn't like check what like I looked like." (Ln. 110-113)

"So now I just talk to like my friends, but I do know this girl through xxx who's like my mate, but I've never met her but like we facetime and stuff. Erm, that's like a friendship really." (Ln. 135-136)

"[Meet through Instagram?] Erm no, like the Xbox and when I went out with XXX I like, she was like facetiming him" (Ln. 147-148)

"On the Xbox it's like game chat and Xbox chat and like game chat is like fighting everyone who's playing the actual game and like a different country and stuff and like erm the Xbox is like just your friends." (Ln. 154-156)

"I like, my mates then yeah, erm like I don't talk to like a

Interview 3

"Yeah, like erm, I think it's their choice. So, I think like erm, some people will like see it too much and some people like see it by accident… searching it too much." (Ln. 228-232)

"[Sexting] I think there was one kid, yeah… Like he got bullied and then it started to like drift away really…because he started to have fights because of it" (Ln. 254-258)

"The people like the girls who was acting like the girl like from our school was er was getting pictures form the internet, but he wasn't." (Ln. 267-268)

Yeah, posted it on the, like I think he was like, because I have an Instagram, like, but like the whole, like this kid made er, made a group called [school name], I don't know, something, and erm and then I didn't like follow them because it wasn't really a private, so I was like oh what's going on here and then it had like er like Peppa pig memes and stuff so that's like normal and I switched off it. Then my mate erm told me on Xbox, arh, so and so has erm just been sending pics to erm, to erm a girl yeah but the girl was his actual girlfriend." (Ln. 272-278)

"Yeah, coz like they just load loads of memes and then there's just a thing like at the back. And like I erm, I haven't

Interview 3

"Like sexual material is that like porn and stuff?" (Ln. 219)

"I like, coz you have to search it up to see it don't you?" (Ln. 226)

"Yeah, because if someone is trying to like, like if they're in your school and like and then they make like a fake account of you, like a fake account of like a girl or boy and then just start sexting and they can have proof that your like, arh look what's he done, or she's done. Like that kind of thing." (Ln. 242-245)

"Like erm, so they come across nudes and then their parents like might see it and then they might get in trouble. Or they can be the ones who's sending them and then people can have them and show them to people like and like oh look what he or she's done." (Ln. 248-250)

"No because I was going to [join the group] and then my mate joined the party on Xbox and erm, and then he was telling me about it and then I deleted the group, because I didn't want to [see the images]." (Ln. 280-281)

"Embarrassed and erm, oh what the work, erm, like showed off like erm, arh I've forgot the word, but like." (Ln. 296-297)

random people like so." (Ln. 175) "I would say an Xbox friend, coz like friends are like, people like you meet and like you trust and stuff, so yeah." (Ln. 186-187) "Erm, not really coz I don't know her like her personality, so you know, yeah…No, just her, coz I don't know her so that's why." (Ln. 192-195) "I spoke through ticktock but then I was thinking like I shouldn't be talking like to her so erm, and then I stopped it and then I deleted it." (Ln. 202-203) "Like I've facetimed her and stuff just me, yeah." (Ln. 206) "Erm, like because I've known her for like ages and then XXX like he's known her since like primary, so that's why I was like oh yeah, and then I play her on Xbox so like, her every day and with like XXX and XXX and stuff." (Ln. 209-211) "Grooming like, I watched this video when erm, when like erm when police came into the school erm and erm they showed us a video of this old man acting like erm like a young kid and he was playing a game and then this young kid like he was about like 10. He joined the thing and then the kid was erm was like talking to him and then the guy was like erm, putting on like a voice and then the old man says erm like oh your skin's so cool like, acting like all friendly and erm, then the man said do you want to meet up somewhere and	seen it though but erm like my mate was erm, because he was just sick of seeing it really." (Ln. 284-286)	

yeah…and then they went to like the park, and I think that was acting and like the video obviously." (Ln. 304-316)

"I would check it like for the odd date and stuff and that's fine yeah." (Ln. 324-325)

"I wouldn't meet her in real life. Like I erm, like I class her as like an Xbox friend so like I don't go out with her…I've facetime her with my mates and stuff." (Ln. 330-335)

Interview 4

"Cos you like like already know them, so you know most about them about them and like it's really hard meeting new people in conversation" (Ln. 142-143)

"Coz they might not be real do you know what I mean. They might just be like vague but then you actually know your mates yeah and you know that they're real." (Ln. 153-154)

"Not trust people…Coz, you don't know them." (Ln. 157-159)

"No actually I have it was on erm, I was watching Hollyoaks it told me, but I didn't actually what it means… Yeah, ok isn't it like sex?" (Ln. 226-229)

"It's like it's not right is…Yeah, they could be 15 and they could be like 30, Its horrible." (Ln. 237-239)

"Yeah, her name is XXX and she like the old like older men but she's just in my high school she's about sixteen and she's dating like a twenty-three-year-

Interview 4

"Erm like sexual stuff?...Erm yeah… Erm maybe come across by an accident." (Ln. 173-178)

"Yeah, it's where you send like nude pictures to like other people… Erm I dunno 'cause I've never done." (Ln. 188-191)

Interview 4

"Erm like your body to like like some people it's very like belly tops like very short shorts. I wouldn't do that" (Ln. 122-123)

"Coz it's just a bit weird 'cause like a little kid could go on it and he's just like seeing it and he'll tell his dad or his like parents" (Ln. 129-130)

"It's risky isn't it. [sexting]" (Ln. 194)

"Erm, can't they get the police involved?... Show everyone… And it can be embarrassing for them" (Ln. 201-206)

"Erm watch like porn erm, and search like inappropriate stuff [is risky]." (Ln. 263)

"Coz, they haven't like really met them in real life, I don't know, could feel like they could not be like who they say they are." (Ln. 310-311)

"Coz if like you don't know them, like they're weird or,

old… It's just awful isn't it. You would rather like find somebody near your own age, wouldn't you?...Erm a negative experience…Erm yeah, I think she told a few people. She, she told like XXX from school and yeah." (Ln. 245-255)

Interview 5

If it was through a trusted site then yeah [meet new people] …Erm like if it's through games and stuff, but I'd have a chat with my parents first… Erm through Xbox probably." (Ln. 86-90)

"Yeah, it's like if I'm playing with my friends and more people can join and then depending on what their ages and stuff, I might like to speak to them." (Ln. 96-97)

"Not really a lot no, its normally on private… Yeah, because normally my friends are on quite private servers so like no people that we don't know like really never go on." (Ln. 102-105)

"Erm because I know them, I can trust them so I can like tell them where I'm going and stuff, but strangers not." (Ln. 152-153)

"[trust] People I do know…Because you can trust them and like you don't know that they're not faking their identity." (Ln. 155-158)

"Well, somebody that you know coz you'd been speaking with them for a bit, but you wouldn't like the extent of your real friends." (Ln. 173-174)

Interview 5

"It depends what comes up on your feed so if you search some of that stuff [sexual material] then you will but not not really." (Ln. 241-242)

"Or like they've been in, so the people that they've added on their thing will, it [sexual material] will come up on their feed." (Ln. 244-245)

"Erm sometimes It'll come up on your feed but most of the time on Instagram it's based on your interests and who you follow and who your friends follow." (Ln. 250-251)

could be like like really older than you, yeah." (Ln. 319-320)

Interview 5

I don't think it's [sexting] good definitely… I find it inappropriate for like younger ages." (Ln. 258-260)

"It can be forwarded on to other people and then they'll go around 'cause it would spread really quickly on Instagram." (Ln. 267-268)

"I think things can get made up about that person…And it will spread faster than the school eventually…It can go to other schools and then they'll probably show their friend and then they'll show their friends and then just…Yeah, like on people stories and stuff like people do it as a joke so it comes down 24 hours but it's still there…Yeah, like the trace is still for 24 hours." (Ln. 274-284)

"Yeah, yeah because like not all of the time you don't know who you talking to so they could be lying about they are and then they will eventually get your trust and then start like telling you to do stuff that you're not always comfortable with as well." (Ln. 337-339)

"If I know the real life, I like have a conversation with them but if I'm not, just the basic conversation like how are you and stuff." (Ln. 206-207)

"I mean like on a game if someone's not like very nice or rude then you can kick them off the game…Erm it was because like they were spamming on the game and not being nice to this other person, so we just kicked them off 'cause it was safer." (Ln. 210-216)

"Yeah, I spoke to 1 Person [stranger]." (Ln. 225)

"I'm not entirely sure but isn't it like when an older person like tries to do do things to young person online?" (Ln. 288-289)

"Well like if you are looking for friends and you're going to resort to the Internet because like if you can't make friends in school for example then you meet them on games and stuff because it's like lonely." (Ln. 389-391)

Interview 6

"I don't do that [meet new people] because I don't like to, A. accept anyone that I know and B. then talk to them, erm I don't know sorry, because I don't know them, so people are weird." (Ln. 81-82)

"Erm so I feel like kind of the most that I can make to that is like if I commented on a video of like a random video that had like millions of likes and

Interview 6

"Erm, I feel like it depends what kind of sexual content it was because if it was like, because a lot of people now obviously models for like underwear and you know bikinis and all that and if you thought of that as like sexual content then yes because there's a lot of it but I feel like in that circumstances it girls girls are more comfortable saying that kind of stuff

Interview 6

"Erm personally I don't trust anyone enough to send it to them because it's so easy to send it and once you send something out there then it's out there forever, so you know it once you send it is out of your control completely and you've no idea what's gonna happen with it, you've no ides who's gonna see it you know and then people could be could

someone replied to it then and then I replied back that would kind of be the most like I would ever get talking to someone I don't know." (Ln. 149-152)

"I don't really like have virtual friends but I feel like until you kind of met them then I wouldn't really be friends they'd just be like someone that you met online so it's different in the fact that you can like meet up with your normal friends and that you can say stuff to your normal friends and you know who your normal friends are whereas with virtual friend even though like they've facetimed you all that but they could be some completely random person so I would say yeah." (Ln. 188-193)

"Erm, yeah, I guess but it be like a different type of friend so you wouldn't really be able to compare them to be honest." (Ln. 196-197)

"Because you don't know who they are they don't know, what you don't know what they're gonna do with what you shared with them whereas they'd use it against you or whether you know they share with the people that you don't want to share it with things like that." (Ln. 203-205)

"Isn't it [grooming] where someone builds an emotional relationship with you and promises you loads of things and treats you amazingly and then kind of, not forcing you but just says oh do this thing if you love me and you know often it's someone that's younger than you just because

because you know it's girls that are modeling so they think oh you know you look great whereas if you're a boy you'd think I didn't wanna see that you know it's different then and then I feel like everything else isn't really promoted you don't just see by chance you have to like purposely search or purposely you know tap the link or whatever so yeah that's what I think about." (Ln. 215-222)

"Yeah, I I would say you have to; you don't just come across it." (Ln. 224)

"Well I mean I've like 'cause if someone that I know is sent a and link to a group chat as a joke and it turned out to be like obviously like I don't know like a porn video or something and then I press it and accidentally I watch it it's funny and obviously I go like of it and stuff because but then I don't like naturally come across that I pressed the link for it 'cause I thought it would be a funny video, erm and then obviously there's not like bikini models and stuff online but you see them every day and you say oh you look, that's a nice bikini you know that's nice but other than that I'm not really seeing too much of it to be honest." (Ln. 227-233).

"Erm, yeah yeah. So someone I know once sent them to me and then I told him not to they did it again so I blocked them so I don't see any of like I only see stuff that is sent to me on the page like rarely that is sent to me because not a lot of people screenshot them to

threaten you with it and stuff so I I really just don't get involved anyway." (Ln. 257-261)

"Well, because it was like erm, so people can use it against you and say like oh if you don't do this I'm going to spread this round and even if your mate see it and then they can still be like really sly and turn on you and then they send it to everyone coz they think it's funny you know they can use it for the wrong things they, I don't know it it's just, and then you can obviously get in trouble for it as well if you found out, if someone finds out about it if it was like in a position of authority." (Ln. 266-271)

"Erm, I guess on FaceTime you could and someone could screen record it or take a photo of it or in real life I guess if you were with, if someone was nasty enough to do that they could just take take a photo of you and then it could end up like I think I don't know about, I don't know what I'm talking complete rubbish but I've heard about them being sold on like the dark web and stuff and being posted on secret accounts on Instagram erm, you know, so they could end up there." (Ln. 275-280)

"Erm so I think that that thankfully a lot of people are quite nice and wouldn't expose someone like that but you never really know to honest and for me it's not worth the risk 'cause I just don't get why you would

it's there more naive and yeah they basically just manipulate you into doing things that you don't want to do but you realize you don't realize at the time because you're so, coz you think they're in love with you or you know that you love them as well, they let you think that." (Ln. 301-306)

"So I know someone he wasn't he's not my friend but he's in my school he went on like this kids dating app thing and found this girl from Manchester, which I don't even it was a thing to be honest and then they got snapchats and then met up erm and then there's a couple more people but it's all the same thing to be honest or was like there's this is thing called Omegle where you can like talk to strangers and stuff I don't go near it and then I I know that all people have added Snapchat names said oh you live 5 minutes away from me come and see me so they go and then they just say that they're meeting up with a friend but often it's not people in my friendship group because I just don't really like to kind of make, surround myself with people that just give because I don't want to get myself involved in that kind of stuff and there's a couple people I know that have done it." (Ln. 332-341)

"So the boy that I know was going out with the girl that he met for a couple of months but everyone had already followed her Instagram she was who she said she was you know like she would pick up the phone like really randomly you know it

take the proof and all that so no I don't really see a lot of that." (Ln. 236-239)

"Erm, not complete [nudes] but sometimes it's like stuff so that's kind of borderline nudes and borderline just normal photo." (Ln. 247-248)

"I've seen someone do it [sexting] you know and then send it back of themselves and I've seen people persuade someone to like send it to them just so they can screenshot it and have it against them yeah stuff like that so I think that people are age are so immature that you you just never know it's not going to be like sent round to the whole year, yeah so." (Ln. 286-289)

"Erm I think so I mean my friends I would say out of 10 two do because I'm not really friends with that sort of people to be honest and I think that a lot of people's parents have said, you know like just don't you get in trouble but also a lot of people are like rebellious and think it's cool an obviously wanna show off their bodies and stuff and it's often to people that they don't know as well so like I know a lot of people that do that they meet people online as well as Snapchat, etcetera etcetera but yeah I would say that not a lot of people my age ask for them for the right reasons not there is anyone reasons." (Ln. 291-297)

wanna do it yeah I mean people can send it and then people can get screenshot I know people that screenshot them and save them to their my iPhone on Snapchat." (Ln. 282-286)

"I just think that you know that they've I've got an awful lot of trust in that person to be in a relationship with them and I think that especially with children and adults I just think that's, obviously if you're like 16/18 that's different because that's legal that way but I think that if it if it was any younger then it was 18 ish there was plenty of other people that are younger you know I don't I get why you would want that it's just you're completely different like ages you know completely different lifestyle and everything but I don't get why someone A. someone would want that and B. with someone they don't know unless they were like sending them money or you know wanted to like use them 'cause they're adults or vice versa usually." (Ln. 309-316)

was it had been going on for so long that it couldn't have been someone faking it erm and she was the same age and the same year and then she knew, everyone knew what school she went to 'cause he just said oh she goes to this this school you know it's in Manchester and then his parents were fine with it, her friends where fine with it which kind of surprise me because maybe, maybe they didn't know that they met on a dating app maybe they just lied about it and then they met up with parents there." (Ln. 345-352)

"Oh, I once went on Omegle" (Ln. 370)

Interview 7

"'cause if you've got your real friends that you've met before you know what they're like and you know if something's wrong or they're acting funny, but people like you've never face to face met on him on the Internet you don't know anything about them they could be anyone." (Ln. 102-105)

"Because you don't know anything about them, they could be anyone, erm you giving information to them that you wouldn't normally share to random people just doesn't seem right." (Ln. 109-111)

"[Grooming]When an older person makes a younger person do things that we don't want to do…Erm I think it's wrong." (Ln. 149-152)

Interview 7

"Definitely [too much sexual material online]" (Ln. 116)

"Because I don't know some people are like oh someone's just been sent this by some person and they think they should be sent it, so they're cool and they like their friends…Pictures, videos, messages, anything like that." (Ln. 118-121)

Interview 7

"I don't agree with it [sexting] …Definitely it's very risky…The person could send it to group chats or random people or post it on the Internet and it's just your private stuff so it shouldn't be shared with the whole world." (Ln. 126-132)

"Erm they [friends] report it [sexual material] and delete it but sometimes they just laugh about it and just leave it." (140-141)

Interview 8

"Yeah, and they're pretty much just people [strangers] that have seen my things and followed and stuff." (Ln. 86-87)

"I don't really talk to people I don't know, like sometimes people add me on Snapchat and if it's like a name that I think I might recognize I'll say like hi and stuff and if it's not them then I'll just like remove them." (Ln. 127-129)

"I think with people I don't know it's either like asking who they are or like if I'm getting to know them then it's just like getting to know them you know." (Ln. 145-146)

"I think people I do know because I can open up about a lot more and like if I'm telling a story, I can tell them everything but with people who I don't know I would not feel as comfortable talking about personal things you know." (Ln. 148-150)

"With my friends yeah but I don't really talk to people who I don't know." (Ln. 152)

"I think you can like be really close to someone online but like obviously you're not gonna meet them in real life so it's like you know there's that element of like not as much trust cause like you don't exactly know." (Ln. 162-164)

"I think maybe if I had been on FaceTime with them and like actually know that they are genuine I think yeah, I would meet them but if, but I haven't

Interview 8

"I don't see that many sexual things, but I think some kids do." (Ln. 213)

"No but I know, I know people who have seen it and there's been like TikTok that are like saying about a TikTok and like oh have you seen this and then all the comments are like what is it like you know yeah, I've seen it don't watch it you know it'll be like; I haven't actually seen the videos you know." (Ln. 219-222)

"Some of my old friends used to do it [sexting]. I don't really talk to them anymore." (Ln. 249)

"When I was friends with them nothing could ever happen, they just like, they just sent them and nothing really happened, now obviously it could be different but." (Ln. 251-252)

Interview 8

"I think some are worse things but they're not like bad it's like models in bikinis like that's probably the worst thing I've seen." (Ln. 216-217)

"I think it's [sexting] normal for young people to do." (Ln. 227)

"Erm, I mean I don't know I don't see like the terrible things like I mean if it's like even a send nude and that's like obviously if you're underage and that's not good but if it's just like talking [sexually] then I think it's fine." (Ln. 229-231)

"Yeah so, I feel like if you're underage yeah. I think older people are a lot more mature so it's not like they like leak it but it's always it's got it's always got like that element of risk cause like someone could screenshot and show everyone you know." (Ln. 233-235)

"Or you know obviously yeah people will screenshot it, if like when we're talking about that story and the virtual babies when like people being arrested people like taking their lives because someone's like doing something you know." (Ln. 238-240)

"I think I I I just don't think it's [grooming] very good because they're just like quite uneducated on the danger's things, I also think it's a bit cringey." (Ln. 263-264)

facetimed them and we just talked like a few days and they're like oh do you want to meet up id be like no or I'd like take my parents, see if it's like genuine." (Ln. 167-170) "Erm, yeah like if we'd Face Timed and they show their face, and you know like actually walked about and like show that's not actually just like a screen or whatever then I think you know." (Ln. 173-175) "I don't know if I could trust them, but I'd trust them more than if I hadn't seen their face you know." (Ln. 177-178) "Erm, it depends how close I get with someone if like I know that they're real then yes [trust them], but I think if not no." (Ln. 185-186) "Yeah, I have a couple friends from New York, but I did meet them. I have a friend who lives in Florida, and I met him as well." (Ln. 188-189) "Erm, I have friends through friends that I haven't met in person but like I know that real because obviously like my friends have met them and stuff." (Ln. 193-194) "I think online friends, like my friends from like America were like really close so we all have the same conversations that I do with my friends but like friends of friends I don't talk to them that much it's usually just like I ask them how they are you know it's like a small conversation." (Ln. 200-203)		"Yeah I think people could be in a relationship with someone who they don't know and they don't wanna lose 'em cause like you know they feel loved because you know in like in actual fact like they're not actually like they feel unloved and people don't really care about them and so if they don't want to lose them they might send nudes and do things for them that they're not maybe fully comfortable with they just wanna feel loved you know." (Ln. 321-325) "Yeah, I think again sending nudes like it could even be like people say I oh you look really good, or it could be people say you don't look good" (Ln. 341-342)

"I think it's [grooming] when an adult does like sexual stuff with a minor." (Ln. 259)		

Appendix 8 – Study 2 superordinate theme 2

Navigating risk as an adolescent		
Risk taking behaviours	**Understanding risk**	**Risk consequences and effects**
Interview 1 "I think the most risky thing that ill think of is when I'm sharing something on Facebook about. Like I remember there was a poppy, but it was a rainbow, and people were like arr that's so like, you don't need to do that it's about the soldiers not about LGBT so but before I shared, coz I always think about other people so ill like think like oh well I don't really want people to comment like arr your against it so I always, I think the most risky thing I've done is probably sharing something that I don't think it's right about the erm, like LGBTQ. So, nothing really." (Ln. 309-315)	**Interview 1** "Like, like not like [sharing] passwords, and like addresses and like more private stuff that like." (Ln. 136-137) "Well like pictures of your friends, but like, like most of the time you'd ask them. Because they might not want that picture up." (Ln. 140-141) "Yeah, well if I made a tiktoc, the only people who would see it would be my close friends and I don't post them any way so it's even, it's in my camera roll." (Ln. 153-154) "Well for other people and this isn't me. It's like, well sending pictures like we were saying and like meeting people who you've just been speaking to, and you don't actually know them. Erm and just messaging people you don't know in general." (Ln. 317-319) "Erm yeah, I think it should just be private in general. Because I don't see why it should be a setting that strangers could look at your profile, it's bit weird." (Ln. 321-322) "Either way it's a risk and it's bad either way. Like you can, even if you got things out of it, like I don't know it's still a bad thing." (Ln. 341-342) "Not having their thing private. "(Ln. 356)	**Interview 1** "Like, if they took a risk and sent something and that went around and the person, they feel a lot like, oh I don't want to see people, like they'd have their head down and they feel worried in case someone said something." (Ln. 383-385)

	"I suppose it's your whole attitude towards taking those risks." (Ln. 368)	
	"Like if you don't, don't know someone you don't speak to them and like, like talk to strangers and like having accounts on private." (Ln. 373-374)	
	"Yeah, and if like, if something did happen, then you'd like speak to someone about it. Like an adult or." (Ln. 376-377)	
	"Erm, yeah, I think in our, my school we get taught loads about like online stuff and like social media and how to be careful etcetera." (Ln. 389-390)	
Interview 2	**Interview 2**	**Interview 2**
	"Erm, I feel, I wouldn't feel myself really, like I'd be worried in case they like screenshotted the chat." (Ln. 237-274)	"In a way yeah coz if they, like if they've sent it to someone like you could get really thingyo for that like it's just not nice really." (Ln. 231-232)
	"I would think, I would probably think like, I can't get the word out, erm, probably think why they would like to speak to someone not their age. You don't know what they are going to be like or feel worried a bit." (Ln. 284-286)	"It would probably spread around so once they've seen it, they'll probably send it to someone else and then if like it was in school everyone would probably know in school and then you would get like bullied and yeah, they make you not want to go to school probably." (Ln. 235-237)
	"Because that adult could be using her to do things or yeah coz, she's young… Yeah, I wouldn't think it wasn't right really, I would think it was wrong." (Ln. 293-295)	"Probably depressed and all, yeah like make them give up and not really wanna do anything anymore. All like suicidal and that." (Ln. 260-261)
	"Probably because if it was one of their friends and they're like saying do you wanna come and do like a fire or something they'll probably think oh I'll go	"People who take more risks online can get them into like, either like trouble or, like a

	along with them and like benefit off it and stuff, but probably something bad would happen to them." (Ln. 360-362)	threat do you know to them if they take, or something bad might happen, but for people who don't take risks, like probably like nothing would happen really." (Ln. 356-358)

Interview 3	**Interview 3**	**Interview 3**
"Erm, I was talking to this girl, and I said where I go to school, then I knew that I was wrong, so I tried to delete it, but I wasn't really happy, so I deleted it" (Ln. 104-106) "I spoke through ticktock but then I was thinking like I shouldn't be talking like to her so erm, and then I stopped it and then I deleted it." (Ln. 202-203) "No, but then, I would check it [social media] like for the odd date and stuff and that's fine yeah." (Ln. 324-325) "Search up for stuff what's not age appropriate and erm talk to people that like, you haven't actually like facetimed or know in real life." (Ln. 347-348) "Erm. Like because yeah, erm like, because like, coz, like phone calls and people can just put on any voice and then facetime like it's their actual face." (Ln. 353-354)	"I like [Instagram], coz that's more safer to, coz like on snapchat erm like the messages just disappear and I don't like that." (Ln. 75-76) "Like if someone like threatens me or something then I'll have to take a screen shot like every time they do it maybe and then on Instagram, like it's never happened but like in the future and even if it does its still there and they can't do it" (Ln. 80-82) "Telling them where you go to like school and stuff, like that can be like a hazard, safety hazard, if you, like an old man or woman, they went to like your school or something." (Ln. 129-131) "Erm, yeah like, erm like, erm like you don't trust like your erm like the people that you just met but like, friends you do so." (Ln. 162-163) "No because I was going to and then my mate joined the party on Xbox and erm, and then he was telling me about it and then I deleted the group, because I didn't want to." (Ln. 280-281) "Like, erm like a relief that its [stranger] not like an old man basically." (Ln. 358)	"Yeah, because if someone is trying to like, like if they're in your school and like and then they make like a fake account of you, like a fake account of like a girl or boy and then just start sexting and they can have proof that your like, arh look what's he done, or she's done. Like that kind of thing." (Ln. 242-245) "Embarrassed and erm, oh what the word, erm, like showed off like erm, arh I've forgot the word, but like." (Ln. 296-297) "I kind of feel like erm, it's kind of weird. And also like it's kind of dangerous." (Ln. 321) "Depressed." (Ln. 414) "Erm, I like, they might have too much confidence, then people might take advantage of that." (Ln. 453-454)

	"Yeah, you can put too much out like your personal life." (Ln. 364) "Like talking to people that they don't know that they have the problems." (Ln. 417) "They can make up like a life." (Ln. 420) "Because I think about what I'm going to say and then it's like I write it, but I don't send it because I read it first and if it sounds ok and safe and like appropriate then yeah." (Ln. 429-430)	
Interview 4 "Erm watch like porn erm, and search like inappropriate stuff." (Ln. 263)	**Interview 4** "Erm like [post] your body to like like some people it's very like belly tops like very short shorts. I wouldn't do that." (Ln. 122-123) "Erm, can't they get the police involved [sexting]?" (Ln. 201) "Coz, they haven't like really met them in real life, I don't know, could feel like they could not be like who they say they are." (Ln. 310-311) "Coz if like you don't know them, like they're weird or, could be like like really older than you, yeah." (Ln. 319-320)	**Interview 4** "And it [sexting] can be embarrassing for them." (Ln. 206) "Yeah, and it could like lead to them killing themselves they got like really bad." (Ln. 271) "Yeah, oh yeah coz if they felt like where they could go and like, online like yeah…Search for like other people and try and make friends." (Ln. 303-306)
Interview 5 "Well like before we had like talks and stuff in school about like Internet safety like posting pictures when you're at that place." (Ln. 314-315)	**Interview 5** "Well, if your accounts on public that is a bit dangerous to put like your full name on their and your date of birth 'cause people you don't know and they can like, see where	**Interview 5** "I think things can get made up about that person." (274) "And it will spread faster than the school eventually." (Ln. 276)

"Then people like know where you are, putting your location on so like at the bottom of Instagram like if you're at a restaurant it would put that you are at a restaurant down there and then if people click on it then." (Ln. 317-319)

"Erm you can like select friends so you could like share it to your close friends or select who you wanted. But sometimes you can have it on public so everyone can see it who checks on their profile." (Ln. 329-331)

"Definitely about the location and erm having my account on public as well I know that I had that when I first had it, but I didn't have any post on 'cause like I'd ask my parents first." (Ln. 343-344)

you live and stuff and your location." (Ln. 128-130)

"Erm, Photos of where you walk, like as long as you're not posting them while you're there. so, people don't know that you're there now." (Ln. 134-135)

"It can be forwarded on to other people and then they'll go around 'cause it would spread really quickly on Instagram." (Ln. 267-268)

"I would tell them to go and speak to an adult, it was not safe." (Ln. 296)

"I'd feel worried for them that you don't know what's going on and who that person is." (Ln. 298-299)

"But like when you post anything online that's got a risk to it because people can still take screenshots and everything." (Ln. 356-357)

"It can go to other schools and then they'll probably show their friend and then they'll show their friends and then just." (Ln. 278-279)

"Yeah, like on people stories and stuff like people do it as a joke so it comes down 24 hours but it's still there." (Ln. 281-282)

"Yeah, yeah because like not all of the time you don't know who you talking to so they could be lying about they are and then they will eventually get your trust and then start like telling you to do stuff that you're not always comfortable with as well." (Ln. 337-339)

"Well, when you hear stories on like so on Facebook for example like if you hear about story on there like what happened to someone online then you're going to want to like be more cautious online." (Ln. 396-398)

Interview 6

"Whereas with virtual friend even though like they've facetimed you all that but they could be some completely random person so I would say yeah." (Ln. 191-193)

"Erm, yeah, I guess [consider them a friend] but it be like a different type of friend so you wouldn't really be able to compare them to be honest." (Ln. 196-197)

"Erm, well I feel like 'cause you know how like your phone kind of knows everything that you search, and you know it

Interview 6

"You've no idea what's gonna happen with it [nude], you've no idea who's gonna see it you know and then people could be could threaten you with it and stuff so I I really just don't get involved anyway." (Ln. 259-261)

"Erm so I think that that thankfully a lot of people are quite nice and wouldn't expose someone like that but you never really know to honest and for me it's not worth the risk 'cause I just don't get why you would wanna do it yeah I mean people can send it and

Interview 6

"Well, because it was like erm, so people can use it [nude] against you and say like oh if you don't do this I'm going to spread this round and even if your mate see it and then they can still be like really sly and turn on you" (LN. 266-268)

"If someone was nasty enough to do that they could just take take a photo of you and then it could end up like I think I don't know about, I don't know what I'm talking complete rubbish but I've heard about them being sold on like the dark web and stuff and being posted on

knows all of your details I feel like that's a bit risky but there's kind of no way of avoiding that so I wouldn't say I do something and think all this is a bit risky at the time you know." (Ln. 359-362)

"Oh, I once went on Omegle because my friends went on it on my phone and I forgot to close the tab and my phone got flooded with like ads from it and stuff like that because I left it open for so long and it's it was like they popped up everywhere and then also I will turn my phones, I forgot, I've forgotten what it's called but I basically turn it off that my phone stops listening to me because if I talk about like erm, sorry it's my phone, like oh there's this new pair of jeans I really want 5 minutes later the jeans will be on my phone on an ad erm so I've stopped doing that but they're not really like proper risks." (Ln. 370-376)

"No, I'm not very easily affected by peer pressure, it would take a lot for someone to make me do something I didn't want to do." (Ln. 419-420)

"Well then I think that they, they would go on it however I think that there are safer things safer ways you can find friends online like TikTok you know if you had a public account and so yeah I think that would make someone want to go online you know and they didn't have a lot of friends and plus also also if you live, if they're, you never have to meet them ever then I

then people can get screenshot I know people that screenshot them and save them to their my iPhone on Snapchat" (Ln. 282-286)

"I don't I get why you would want that it's just you're completely different like ages you know completely different lifestyle and everything but I don't get why someone A. someone would want that and B. with someone they don't know unless they were like sending them money or you know wanted to like use them 'cause they're adults or vice versa usually." (Ln. 313-316)

"Erm, OK so I would say 'cause a lot of them know that I'm a bit of like a kind of freak about it anyway and they're like oh come on just do it you know it's a laugh what's the worst that could happen, I'm like no. Obviously nothings probably gonna happen but just in case and then they sometimes will encourage me like oh add his Snapchat and his snapchat and then I'll pretend that I've added it when I haven't actually added it or I will have searched it and not added him." (Ln. 411-416)

"Because I feel like your parents wouldn't be telling you not to do it for the sake of, they'd be telling you not do it because you shouldn't be doing it so you kind of just got to take their word for it and not do it." (Ln. 479-481)

"Erm in school no, I feel like it's really rubbish you know you could easily go through school and have learnt actually

secret accounts on Instagram erm, you know, so they could end up there." (Ln. 276-280)

"I know a lot of people that do that they meet people online as well as Snapchat, etcetera etcetera but yeah I would say that not a lot of people my age ask for them for the right reasons not there is anyone reasons." (Ln. 295-297)

"Erm, like peer pressure they assume everyone's doing it so people would think that they have to do it," (Ln. 439-440)

"Peer pressure, wanting to stand out and act rebellious and really want to be friends or a new relationship, maybe 'cause they saw something happens a lot you kind of see advertised or you see it online you see on Instagram see it on tik T.O.K and they think oh that's really cool let me try and get addicted to it like just like I did to TikTok obviously it safe, a lot of people use it and then obviously if it's an ad or someone tells you about it or sometimes if someone tells you not to do it that make you think well I want to try and do it 'cause I wanna see what not to do and then you can't stop yourself doing it" (Ln. 443-449)

"Sometimes if your friends say to you like oh I tried this don't do it or I've heard about this don't do it then you know that would kind of make sure, or again you know if someone said that they did it and it when badly and tried to recreate it for a laugh then I'd also have to be like no I'm not doing that yeah." (Ln. 470-474)

feel like it kind of is less stressful in a way because you're never panicking like oh you know what if they don't like me what if they don't like the look of me, what if they done like me as a girlfriend or even just a friend you know what if they did like how I am, what if they don't like what I do and all that' so you can kind of if you wanted to you could hide a lot from a friend online and make him kind of kind of say the things that they want to hear to make them like you, it's pretty easy to get a friend online." (Ln. 452-461)

nothing about your safety online or Self-love you know and everything like that 'cause the only thing that we've done in school at the moment is the overweight scale and it's a really tight like boundaries like I was overweight and I personally would look at myself and think Oh my God you're so fat you know but I was overweight coz erm there's like me and XX, erm me and XX were overweight just 'cause we're taller yeah, 'cause we're taller erm and then obviously if you are sensitive then you think Oh I'm overweight you know, erm so no, the only thing that school could have possibly done from my experience is make it worse." (Ln. 513-521)

"So I feel like stuff like that can really damage it and then also if you can like, so I feel like it depends 'cause some people would look at a picture of like an amazing super model online and think oh why don't I look like that you know I should be looking like that but then some people will be like it's all plastic you know so it it it I feel like definitely with the kind of friends faking that they have everything definitely a lot of people you know pretty much anyone could be put down by that but then it really depends how sensitive you are as well because if you had a lot of self-worth then you'd know actually I don't need to be like that because I've got everything that I need and if you didn't they you'd say well I want I want everything you know I want to be like that and want to have that." (Ln. 502-510)

Interview 7	**Interview 7**	**Interview 7**

"Erm, I don't know really because I'm quite careful with what I send and things like that, so I don't think I do anything, really, really, really, extreme." (Ln. 165-166)

"Share things that you don't really want to share but you've been told to, erm, being horrible to someone online, sharing addresses and phone numbers and bank details." (Ln. 169-170)

"Erm I remember very very ages ago, one of my friends sent me some link and it was like click this and you'll get a

"Erm, when they see something that doesn't seem right, always do something about it either if it's reported it tell someone about it just don't ignore it." (Ln. 208-209)

"Yeah, and also, I don't, I don't really want to put myself at risk when, 'cause there's no point because you can always make friends in real life, and they'll be friends for life." (Ln. 213-214)

"I think people take the risk because they know about it, and they really want to but then there's some people that

"The person could send it to group chats or random people or post it on the Internet and it's just your private stuff so it shouldn't be shared with the whole world." (Ln. 131-132)

"Erm, they could make it, get made to do things that they don't wanna do so because they really lonely and they feel quite low and depressed that someone might say to them if you do this then I will make your life a dream and will get everything you ever wanted." (Ln. 203-205)

free pair of trainers from Nike or something and there was this thing going around that there was a scam which was exactly that so I just deleted it and told them don't send it to anyone else because this is a scam and it just seems to be true so." (Ln. 175-178)

feel like they've got no one to talked to so they just do it anyway." (Ln. 228-229)

"Yeah, because when people post stuff like a selfie or something and they go, just woke up like this or whatever, then people are going to be, going to post nasty things and say nasty things that are just going to make them feel really worthless and knock their confidence." (Ln. 220-222)

Interview 8

"I think maybe if I had been on FaceTime with them and like actually know that they are genuine I think yeah, I would meet them but if, but I haven't facetimed them and we just talked like a few days and they're like oh do you want to meet up id be like no or I'd like take my parents, see if it's like genuine." (Ln. 167-170)

"I don't know if I could trust them, but I'd trust them more than if I hadn't seen their face you know." (Ln. 177-178)

"I used to not have a public account then I changed it also once I was playing Roblox and there was this guy asking this girl for her age and stuff and after that I just didn't play Roblox anymore because it's a bit weird." (Ln. 285-287)

"I think having been able to get a lot of followers because of having a public account and I get lots of love and support." (Ln. 309-311)

Interview 8

"Because people can come to your house and, or like stalk you or can rob you or kill you." (Ln. 115-116)

"There's that element of like not as much trust cause like you don't exactly know." (Ln. 163-164)

"I mean I didn't fully understand but I knew about like you shouldn't like tell strangers your age you know." (Ln. 291-292)

"Oh yeah. I think also like pedophiles and stuff I think people would like take precautions to like not have people like DM'ing them with things." (Ln. 330-331)

"I'm not sure I think just like school and my parents have warned me about things." (Ln. 335)

Interview 8

"Yeah I think again sending nudes like it could even be like people say I oh you look really good or it could be people say you don't look good or like say for example with like Charlie Damelio she gets a lot of hate yeah and she's only 16 she gets a lot of hate on her body and stuff obviously it's not just her like everyone gets hate on their body and how they look and how they act and I think that can really lower someone self-esteem." (Ln. 341-345)

"Yes, but also, it's like you don't really understand like the situation until you're in it you know." (Ln. 360-363)

Appendix 9 – Study 2 superordinate theme 3

Social media at the forefront of an adolescent's life		
Social media use and fluency	**Communication and socialisation**	**Social media outcomes**
Interview 1 "Erm, well coz actually like it tells me on my phone like how many hours. So, like in a week it'll get to like 24 hours in a week." (Ln. 42-43) "So, it's like at least 3 hours a day." (Ln. 45) "I go on tiktoc a lot." (Ln. 49) "I'd say like most of the time I'm on my phone is all social media." (Ln. 51) "So, it's mostly Instagram, Facebook, snapchat, TikTok, and well yeah that's pretty much it." (Ln. 59-60) "I'd say Instagram [favourite]." (Ln. 62) "Erm it's like, I'm seeing like pictures but like snapchat is like messages and like I don't message people on Instagram so it's like seeing pictures, yeah." (Ln. 70-71) "Erm, Facebook's mostly like, I always watch videos on fakebook as well, erm, it's always like three-minute videos from like dance mums, I don't know why but that's just what comes up like suggested. And like sharing like funny things like, I don't know it's just things that everyone shares, and like the news and stuff." (Ln. 73-76)	**Interview 1** "I'll be on Instagram looking at like clothes and it always, yeah, it come up with clothes or I'll be on Facebook like sharing funny stuff and then ill message people on snapchat and that's yeah, on and yeah ticktoc." (Ln. 47-49) "I think with Instagram it's like, I just see things, I don't know it's just like all clothes and shopping but it's like I'm not like buying stuff I just see it, like other people's pictures but most of its like, I think I follow like one thousand people and like five hundred of them are like random Disney ones that I don't even remember following, just coming up with like random stuff. But it's like different to other apps, like yeah." (Ln. 64-68) "I'd say like it's Snapchat who I message everyone on, but then I use messenger, which is Facebooks messenger to like message my mum and like my nan and like close family for that one. But it's like, if I'm messaging someone in my class or somethings it'll be snapchat." (Ln. 87-89) "I'd say the most personal thing on there is when I went on a holiday and I posted a picture of, I think it was my cousin going down a slide and I said, I captioned it, caravan,	**Interview 1** "Yeah, cos it would make, it would make you sad, coz like people are thinking bad of you" (Ln. 247-248) "I could post a picture of me and a cousin from a holiday and someone who I like don't speak to but would like to like comment on it like I don't know. I hope you had a good holiday and id feel nice that she's like commented on it." (Ln. 346-348)

"I'd say snapchat is like my friends, like I think I've got like three family members on it. And then Facebook's like, friends and family like I've got lots of, all my family on there, like mum's cousins aunties sister, like random like far family. And then Instagram is more of a like, my friends follow me, but I follow some people who I don't, I do know but like." (Ln. 79-82)

"Depends in what way, like, like if I'm finding something out about like a brother, like my brothers, then I'd go on someone's Facebook, I mostly use like, I find stuff out, I'm amazing at it like, my brother tells me a name of his girlfriend, next thing you know I've just got her Facebook up and it's all there so I don't really use it on other people thought it's just mainly my brothers." (Ln. 91-95)

"Erm, well on snapchat I don't really post anything anymore. I mean I've got a private story, which is like, it's got like, twelve people in, that's basically being like my close friends. And the only thing I like post on there is like. I don't know, say like I'm listening to a song, I'll post a picture of like the song and like random stuff. But like on Instagram, I think the last thing I posted was on April the first, I just remember the day, and it was a selfie and there was no caption, and I don't really post much stuff and then Facebook is just like sharing stuff. So, it's like I didn't post it it's just like, sharing like a funny joke or something, so I

so that the only thing they know is that I went to a caravan." (Ln. 116-118)

"Erm I've got the same name for everything, well the same name for snapchat and Instagram, and it's just XXX, which is well, my name and then underscore x123." (Ln. 121-122)

So if someone adds you, you've got to like, say, it will say add friend, or like get rid of it, and I only add them if I know its them, and then Instagram its private so it won't come up but it will like, like if I like go on it, of whose like requested to follow me, I can say confirm or delete, so ill only confirm if I know them. And then Facebook is the same as snapchat you've got to like confirm it and or delete it and Facebook you can only view, and Instagram you can only view my profile if I've like accepted it. (Ln. 126-131)

"Like, like not like [sharing] passwords, and like addresses and like more private stuff that like. I don't really know but like, yeah." (Ln. 136-137)

"Erm, well like pictures of your friends, but like, like most of the time you'd ask them. Because they might not want that picture up." (Ln. 140-141)

"Erm, well I've got a couple of group chats on snapchat and it's like, were just like, there's me and then two other girls, which are like my friends, and we just talk, mostly like, I don't know. Erm, or like they'll like make a funny ticktoc,

don't really post much." (Ln. 106-113)

"They're all private [accounts]." (Ln. 133)

they'll send it in, and we'll all laugh about them being funny or they'll I don't know. I meant mainly it's like messaging people like oh what are you doing or how's you day, how are you. Stuff like that." (Ln. 143-147)

"Yeah, well if I made a ticktoc, the only people who would see it would be my close friends and I don't post them any way so it's even, it's in my camera roll." (Ln. 153-154)

Interview 2

"A lot erm, a day I'd probably say like 3 hours or 4 hours a day." (Ln. 35)

"Erm, snapchat, Instagram, Facebook, erm, and like shopping. Do you know like shopping apps? Yeah, that's it." (Ln. 56-57)

"Either snapchat or Instagram, well probably snapchat." (Ln. 59)

"Erm, Instagram you can like post pictures of your friends or if like, snapchat you can take pictures with your friends and text them." (Ln. 61-62)

"Well on Instagram I just post a picture of like my friends and then snapchat I'll take, like ill just see all the pictures of my friends." (Ln. 65-66)

"Erm, yeah, like all my accounts I have them on private you know so no one can look on." (Ln. 116-117)

Interview 2

"Erm, to text friends or yeah." (Ln. 42)

"Yeah, make plans [on social media]." (Ln. 70)

"Probably [make plans] snapchat on a group chat, yeah." (Ln. 74)

"On WhatsApp that's where I have like a family one." (Ln. 79)

"Yeah, and then on snapchat I have like my friends' group, yeah." (Ln. 81)

"On snapchat id like, in my group if there was like a rumour going around about my friend it would probably go straight to that group like about someone." (Ln. 88-89)

"I don't really [share information, but if I did, it would probably be Snapchat do you know to like one of my friends, like about me or yeah, but not really." (Ln. 105-106)

Interview 2

"Like people being bullied and like spreading it round more or like if some one's like poor and people making fun of them." (Ln. 112-122)

"Probably depressed and all, yeah like make them give up and not really wanna do anything anymore. All like suicidal and that." (Ln. 260-261)

"I would think, I would probably think like, I can't get the word out, erm, probably think why they would like to speak to someone not their age. You don't know what they are going to be like or feel worried a bit." (Ln. 284-286)

"If I've won something or probably if I've been nice. Yeah, probably if I've won something do you know like erm… Probably [post it] so my friends can see it but not to people I don't know." (Ln. 340-343)

"Yeah, like my name and I'd probably have like my birthday and that's it really." (Ln. 110)

"Like where are we going to meet like do you know before school or like where were gonna go and like yeah." (Ln. 125-126)

"Yeah, if my nan takes me out for the weekend or if I'm sleeping at my nans or going out to see my friends yeah, we'd probably plan [on social media], and go and have a day out, yeah." (Ln. 128-129)

"Yeah, saying nice things like well done, yeah." (Ln. 346)

"People who take more risks online can get them into like, either like trouble or, like a threat do you know to them if they take, or something bad might happen, but for people who don't take risks, like probably like nothing would happen really." (Ln. 356-358)

"Probably because if it was one of their friends and they're like saying do you wanna come and do like a fire or something they'll probably think oh I'll go along with them and like benefit off it and stuff, but probably something bad would happen to them." (Ln. 360-362)

"To make them better of just to make them look hard or good [peer pressure]." (Ln. 364)

Interview 3

"Erm, 2 hours or 4 hours on the weekend I suppose." (Ln. 51)

"Erm, its mostly Instagram really, yeah that's it really." (Ln. 54)

"An hour and a half really." (Ln. 61)

"Erm, WhatsApp." (Ln. 64)

"Coz that's [Instagram] more safer to, coz like on snapchat erm like the messages just disappear and I don't like that." (Ln. 75-76)

"I follow like erm, like footballers like Everton. I like

Interview 3

"I just text my mates and check what's on erm like add like games and stuff like on Instagram and stuff and check what's going on there really." (Ln. 27-28)

"Like erm I go on the Xbox like when I get home and do like. I go to like football training and then go on the Xbox and just chill on Instagram really." (Ln. 44-45)

"Texting my mates and checking what's going on it really." (Ln. 88)

"I'll see what they post and stuff." (Ln. 96)

Interview 3

"Like if someone like threatens me or something then I'll have to take a screen shot like every time they do it maybe and then on Instagram, like it's never happened but like in the future and even if it does its still there and they can't do it" (Ln. 80-82)

"I like erm, coz, erm, my opinion is like arh, like he's got new boots or her, and then like telling them where you go to like school and stuff, like that can be like a hazard, safety hazard, if you, like an old man or woman, they went to like your school or something." (Ln. 129-131)

my mates erm, then like games and stuff, like Rockstar games." (Ln. 90-91)

"Like erm, like erm sharing like what like new like football boots you get or that. Then things that aren't ok, is like, your face and like taking pictures of your face and erm telling them where you go to school and live." (Ln. 124-126)

"No, I have like, a username. but like erm, on WhatsApp I have just XXX really." (Ln. 115)

"Yeah, and like people who followed me and then I've like requested to follow them, that's the people mainly." (Ln. 120-121)

"Like just like, are you going to footy tonight or do you wanna go out or I dunno, or stuff like that really." (Ln. 135-136)

"Yeah, you can put too much out like your personal life." (Ln. 364)

"Erm, I like, they might have too much confidence, then people might take advantage of that." (Ln. 453-454)

Interview 4

"Probably everyday…Erm we've got like a time limit…Like an hour" (Ln. 47-54)

"Erm, just like to see stuff really, like so like football and that's about it." (Ln. 60)

"Yeah, I search through google sometimes Instagram and that's about it." (Ln. 62)

"Yeah, and sometimes I watch Tic Tok." (Ln. 70)

"Erm, I watch football on it [Instagram], do you know like videos and that's about it." (Ln. 89)

Interview 4

Erm, I don't know coz like you get to know stuff like what's happening [on Instagram]. Like yeah." (Ln. 83-84)

"Just my name and a picture." (Ln. 104)

"Oh yeah, it's all private." (Ln. 108)

Interview 4

"Yeah, and it [cyberbullying] could like lead to them killing themselves they got like really bad." (Ln. 271)

Interview 5

"Yeah everyday [social media] … Normally more on the evening because I'm more downstairs with my family in the day." (Ln. 38-41)

"Erm probably no more than four hours without taking a break." (Ln. 52)

Interview 5

"Erm, I like to do stuff online with friends so like video call and stuff because of corona so we can't go out." (Ln. 23-24)

"Erm to video call my friends." (Ln. 43)

"Erm Just my close friends and their accounts and stuff…Yeah,

Interview 5

"Then people like know where you are, putting your location on so like at the bottom of Instagram like if you're at a restaurant it would put that you are at a restaurant down there and then if people click on it then." (Ln. 317-319)

"Yeah, yeah because like not all of the time you don't know

"Erm mostly Instagram and Snapchat." (Ln. 56)

"Erm Instagram so I can see what my friends are up to and then Snapchat is messaging my mates." (Ln. 58-59)

"Erm you can like select friends so you could like share it to your close friends or select who you wanted. But sometimes you can have it on public so everyone can see it who checks on their profile." (Ln. 329-331)

some youtubers but apart from that no." (Ln. 76-78)

"So, I can see what my friends get up to on holidays." (Ln. 83)

"I normally just erm, normally use a quote for a profile photo so like people you don't know can't see what you look like." (Ln. 109-110)

"All private so like just my friends on except like if they send a request, I'll see who it is and if I know then I'll accept them." (Ln. 119-120)

"Erm, Photos of where you walk, like as long as you're not posting them while you're there. so, people don't know that you're there now." (Ln. 134-135)

"Erm, well with my friend just general conversation about like what they're up to and things." (Ln. 140-141)

"Yeah 'cause like one of my friends from school knows someone else like, I was looking for new friends last year and she's the same age as me." (Ln. 374-375)

who you talking to so they could be lying about they are and then they will eventually get your trust and then start like telling you to do stuff that you're not always comfortable with as well." (LN. 337-339)

"Well, if you see that like if they see their friends doing it then they're gonna wanna like follow along with them." (Ln. 385-386)

"Well, when you hear stories on like so on Facebook for example like if you hear about story on there like what happened to someone online then you're going to want to like be more cautious online." (Ln. 396-398)

"Because like on social media like Photoshop is a big thing so you're looking at other people but mostly photoshopped, wishing like you look like them but they're not real online." (Ln. 421-423)

Interview 6

"Erm so like actual Internet not a lot but like Instagram and Snapchat I would say every hour a lot." (Ln. 38-39)

"It kind of depends so I'll, on Snapchat I could probably spend easily an hour on that, on TikTok I could spend hours on that but on Instagram not, not long like 15 minutes, 10

Interview 6

"Erm, messaging my friends face timing my friends looking at peoples posts on Instagram and going on TikTok." (Ln. 22-23)

"Erm, well I sometimes it, look if someone like mentioned someone's name I'll kind of look at them but then if it is like a private account, I won't

Interview 6

"Erm, OK so I would say 'cause a lot of them know that I'm a bit of like a kind of freak about it anyway and they're like oh come on just do it you know it's a laugh what's the worst that could happen, I'm like no. Obviously nothings probably gonna happen but just in case and then they sometimes will encourage me like oh add his Snapchat and his snapchat

minutes, it's mainly just TikTok and Snapchat." (Ln. 44-46)

"So social media and then to get like exercises and to like help me with things like sometimes school erm, look things up you know." (Ln. 49-50)

"Erm Snapchat Instagram TikTok I have Facebook but rarely use it, erm and then obviously Messenger comes on Facebook and then I use Pinterest, but I don't know whether that counts as social media thing and then yeah that's it." (Ln. 54-56)

"Erm, so I use different, for different things so I'll use Snapchat for messaging people a lot that's kind of what I'm message a lot of my friends on apart from people that don't have Snapchat then I'll then messages people on Instagram erm, and then sometimes if I'm really bored obviously I would look through people stories and if I'm on Instagram I'll look through like peoples posts but I'm not on Instagram a lot and then TikTok obviously just sort of look at videos I don't really post anything either. Pinterest I just do it for the fun of it Facebook I just do it when I'm bored, but it's mainly snapshot and TikTok though." (Ln. 63-69)

"I do, not Xbox games, I just played them on my phone erm, and I don't play them with other people because there's not really my thing." (Ln. 58-59)

"Because it just occupies me and there's so much different stuff on there like erm, you

bother but I just like see who it is but if I recognize them, but other than that no not really." (Ln. 77-79)

"Erm so I followed obviously all my friends and then I follow a lot of people who play hockey just 'cause like it's always good to improve. Erm and then also a lot of people kind of like have music so I can find new stuff to add to my playlist and other than that I just scroll through like random feed and that's about it." (Ln. 92-95)

"Well obviously my name but other than that like in Facebook I didn't put any kind of like go to school here, lives here, in a relationship with, 'cause it's just not any other people's business and then I also put a fake birthday because I don't want people to know my birthday because I'm just paranoid like that and then on Snapchat I have private stories so that people who already know me anyway, and then I'll say something on them, but it's not out to everyone to see it's only people that I allow can see all my private story." (Ln. 99-104)

"Erm, yeah so, they are but I've obviously got a private account and then on Instagram they'll always be of me or of where I am with my friends." (Ln. 106-107)

"Erm, well I don't really know too much about them but I have a private account so I know that, and then obviously on Snapchat anyway you can't see anything until I accept like

and then I'll pretend that I've added it when I haven't actually added it or I will have searched it and not added him." (Ln. 411-416)

"Well obviously you could like make new friends with new relationship and you could I don't know find a new thing that you like to do and obviously it depends on what kind of risks that you take in the first place." (Ln. 425-427)

"Peer pressure, wanting to stand out and act rebellious and really want to be friends or a new relationship, maybe 'cause they saw something happens a lot you kind of see advertised or you see it online you see on Instagram see it on tik T.O.K and they think oh that's really cool let me try and get addicted to it like just like I did to TikTok obviously it safe, a lot of people use it and then obviously if it's an ad or someone tells you about it or sometimes if someone tells you not to do it that make you think well I want to try and do it 'cause I wanna see what not to do and then you can't stop yourself doing it" (Ln. 443-449)

"Well then I think that they, they would go on it however I think that there are safer things safer ways you can find friends online like TikTok you know if you had a public account and so yeah I think that would make someone want to go online you know and they didn't have a lot of friends and plus also also if you live, if they're, you never have to meet them ever then I

know you can kind of I don't know, if you were like obsessing on celebrities you can you know have them all the time on TikTok and then you can also tag your friends into funny videos erm yeah it just occupies a lot of your time." (Ln. 86-89)

"Erm, so it depends on Snapchat you can have a kind of conversation without saying anything by sending pictures of your face, but usually it's just like erm kind of talking about some school work or just like how's your day or something like that because to be honest I don't really have in depth conversation with my friends or it's like erm kind of oh look at this funny thing you know look what I bought and all that. Erm never like anything too, coz I tend to like, important, if it's really important I tend to say it face to face." (Ln. 141-146)

"Erm, well I feel like 'cause you know how like your phone kind of knows everything that you search, and you know it knows all of your details I feel like that's a bit risky but there's kind of no way of avoiding that so I wouldn't say I do something and think all this is a bit risky at the time you know." (Ln. 359-362)

"Clever enough to get onto that the dark web because you've got to kind of like go on this fancy link, I don't know how I know that I just know erm and then that's all I can think of to be honest." (Ln. 365-367)

"Oh, I once went on Omegle because my friends went on it

you and then I don't tend to post on my Instagram story a lot because obviously people can screenshot and not anyone would and then I need don't know but on Snapchat you can see if someone screenshotted it so I don't tend to like post too much on them erm, but yeah I don't give anyone my number I don't, I have, my Snapchat in my Instagram bio but then I'll only accept you if I know you on Instagram so it's not like I'm giving random person my Snapchat probably not that's why." (Ln. 109-116)

"No, I have my snap Maps turned off and then if I do need to turn it on just in case if I can if I'm going out and then I'll get I'll share it with like one friend other than that I don't have it on because I just don't like people looking at where I am." (Ln. 118-120)

"Erm, I would say your name your birthday's all acceptable, erm and then for me personally I would say kind of like you, so you could say like I live near Liverpool but I, I wouldn't say I live on the Wirral just because I just wouldn't, erm so I feel like saying not exact address, like this number this road you know this post code that wouldn't be acceptable to share online erm and then I would say erm, so obviously like things that you buy, things, so for example Christmas presents I would say for me personally is not acceptable because some people may not have what I have you know vice versa so I

feel like it kind of is less stressful in a way because you're never panicking like oh you know what if they don't like me what if they don't like the look of me, what if they done like me as a girlfriend or even just a friend you know what if they did like how I am, what if they don't like what I do and all that' so you can kind of if you wanted to you could hide a lot from a friend online and make him kind of kind of say the things that they want to hear to make them like you, it's pretty easy to get a friend online." (Ln. 452-461)

"Sometimes if your friends say to you like oh I tried this don't do it or I've heard about this don't do it then you know that would kind of make sure, or again you know if someone said that they did it and it when badly and tried to recreate it for a laugh then I'd also have to be like no I'm not doing that yeah." (Ln. 465-474)

"So if you we're making friends online that you didn't know in real life and they could be like oh I've got this this this this, this this is how I look you know, I'm amazing I've got such a good relationship with parents, I'm doing so well in school I've got so many friends you know I'm so rich and my parents are so successful I have everything I want then obviously that will lower someone's outlook on things, like oh why can't I have that you know am I not good enough for it to my parents not love me do my parents

on my phone and I forgot to close the tab and my phone got flooded with like ads from it and stuff like that because I left it open for so long and it's it was like they popped up everywhere and then also I will turn my phones, I forgot, I've forgotten what it's called but I basically turn it off that my phone stops listening to me because if I talk about like erm, sorry it's my phone, like oh there's this new pair of jeans I really want 5 minutes later the jeans will be on my phone on an ad erm so I've stopped doing that but they're not really like proper risks." (Ln. 370-376)

"I didn't realize that people would you then just stop there phone tracking what they were doing and obviously I knew about private searching 'cause that way you know no ads and then you can clear your website history instantly on settings so that didn't remember anything you visited anything you looked at and I knew you could do that but yeah a lot of people kind of use VPNs you know private searching everything like that." (Ln. 391-395)

"And like their parents and their parents you know it's pretty easy if don't do any of that stuff just to find your search history you just got a little book thing and if their parents searched through it, you know stuff like that so that they don't know and then, but their phones know and potentially could send like a message to their parents." (Ln. 402-405)

would say not and then I wouldn't say like things I have in case someone saw it and thought I would want that erm, and then obviously like my baby cousins, all of them I wouldn't post them because that my aunt and uncle probably wouldn't like it, I just think there's no need but then I'd post like my mum and stuff I could, you know of it was Happy birthday and also families birthdays as well erm and then obviously in normal times I would say it's OK to put a picture of like everyone in the party but obviously now it's not because it's not fair on the people you know, to be having a party then let alone be sharing it. Erm so like credit card details if you had it in like your phone case erm your registration on your car your driver's license or any I.D. or passport, or erm bank details erm, I think that's it, and money as well so none of that." (Ln. 123-138)

not you know wanna make a family for me am I not smart enough not pretty enough erm so I feel like stuff like that can really damage it and then also if you can like, so I feel like it depends 'cause some people would look at a picture of like an amazing super model online and think oh why don't I look like that you know I should be looking like that but then some people will be like it's all plastic you know so it it it I feel like definitely with the kind of friends faking that they have everything definitely a lot of people you know pretty much anyone could be put down by that but then it really depends how sensitive you are as well because if you had a lot of self-worth then you'd know actually I don't need to be like that because I've got everything that I need and if you didn't they you'd say well I want I want everything you know I want to be like that and want to have that." (Ln. 496-510)

Interview 7	Interview 7	Interview 7
"I don't use it [social media] that often I've only got WhatsApp so." (Ln. 56)	"Erm, I like to text my mates and maybe sometimes call them." (Ln. 24) "Things I like to do so if my mates are just randomly talking in the group chat I go oh I'm doing this and I absolutely love it, things like that and maybe if I'm in like a certain place so like XX for example I say oh I'm in XX and I'm in this shop or something." (Ln. 67-69) "[Share] Your hobbies things that you'd like doing at home so if you're doing drawing or something things like that. Erm just maybe things that you want to share." (Ln. 80-81) "[not acceptable] Address, phone number, family members names, your name, erm credit card details, bank details, exact location." (Ln. 86-87) "Just in case someone's on the group chat don't know or your friends have been dared to share information to random people." (Ln. 89-90) "Erm sometimes, sometimes I say oh I've just seen this I'm shocked, when I have seen it like months and months ago. I don't do anything that's like really bad." (Ln. 93-94) "Erm, I don't know really because I'm quite careful with what I send and things like that, so I don't think I do anything, really, really, really, extreme." (Ln. 165-166)	"Share things that you don't really want to share but you've been told to, erm, being horrible to someone online, sharing addresses and phone numbers and bank details." (Ln. 169-170) "Erm, they could make it, get made to do things that they don't wanna do so because they really lonely and they feel quite low and depressed that someone might say to them if you do this then I will make your life a dream and will get everything you ever wanted." (Ln. 203-205) "Yeah, because when people post stuff like a selfie or something and they go, just woke up like this or whatever, then people are going to be, going to post nasty things and say nasty things that are just going to make them feel really worthless and knock their confidence." (Ln. 220-222)

"Yeah, I've been able to like send pictures of like things I'm doing so like going to the zoo or something and sharing my experiences with them." (Ln. 195-196)

Interview 8

"Every single day [online]." (Ln. 36)

"It depends, with XX I'll probably be on FaceTime with her, and I'll stay on Instagram but if I'm just like texting people, I usually like text them and then and then go off and play a game and then go back so its lot long, but I go on it for like a long time." (Ln. 41-43)

"Erm usually just text my friends or like school things." (Ln. 45)

"Erm yeah, it's yeah mainly going off and, on all day, usually I spend about like three hours, three to five hours on social media a day." (Ln. 58-59)

"Instagram and Snapchat and tick tock." (Ln. 61)

"Probably Instagram [favourite]." (Ln. 68)

"I don't know I think face timing on there [Instagram] is like the best and there's just like lots of things to see." (Ln. 70-71)

"Yeah, I think with Instagram and Snapchat it's mainly just to like talk to my friends but with tick tock it's mainly just for entertainment." (Ln. 74-75)

Interview 8

"Erm, it's may just like videos of me and my friends dancing and stuff." (Ln. 83)

"Erm, well in my bio on my Instagram and tick tock it's just my Snapchat and like that's it." (Ln. 93-94)

"Erm my profile picture is me and my name is my name." (Ln. 97)

"I have a public account on tick tock and a private account and same on Instagram have a public and private account." (Ln. 99-100)

"Erm well like on my private account it's just like videos of me that aren't like very flattering and same with Instagram it's not very flattering things then on my public account it's just what I like post, nice things of me." (Ln. 102-104)

"The things on my private account are just bad pictures of me or videos of me dancing but like stupidly." (Ln. 107-108)

"I think maybe your first name and I don't know I think your first name is OK an if you've got a very common name maybe your surname as well." (Ln. 110-111)

Interview 8

"I think having been able to get a lot of followers because of having a public account and I get lots of love and support also just like being able to talk to my friends and you know yeah and planning things and just being there for my friends if they're upset or anything." (Ln. 309-311)

"It's not really a big deal for me like I was happy having like 50 followers but it's just like it's nice having a lot of followers, I have the most out of my friend groups that's fun." (Ln. 317-318)

"Yeah I think again sending nudes like it could even be like people say I oh you look really good or it could be people say you don't look good or like say for example with like Charlie Damelio she gets a lot of hate yeah and she's only 16 she gets a lot of hate on her body and stuff obviously it's not just her like everyone gets hate on their body and how they look and how they act and I think that can really lower someone self-esteem." (Ln. 341-345)

"Erm, well on tick tock I've got like I've got like a lot of fans now, like over 350 so usually, so most of my followers mostly people I'm following is like my followers and plus like, I, I watch lots of like cooking things on tick tock as well." (Ln. 77-79)	"Where you live, your phone number you know things like that [aren't acceptable]." (Ln. 113) "Er, I don't even know we [friends] just like talk about things…Yeah, I'd say so, it's just like really random…Yeah, usually I like do it on like Snapchat or Instagram." (Ln. 119-124) "Sometimes like erm the other day last week I posted a video of me and my friends and we were doing this like group, this like thing and it's like it was, it was just like questions and stuff and then like you go forwards if it applies to you and someone was like wear masks and like were in school and we've been testing and stuff, so it's like just like, like telling people that things." (Ln. 132-136)	

Appendix 10 – Study 2 ethical approval

UNIVERSITY OF LIVERPOOL

Central University Research Ethics Committee A

22 October 2019

Dear Dr Centifanti

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee. **Application Details**

Reference: 4815
Project Title: A research project exploring adolescents' internet use, exposure to sensitive online content and risk taking Principal Investigator/Supervisor: Dr Luna Centifanti
Co-Investigator(s):   Mrs amy Wood, Dr Minna Lyons, Dr Suzanne Gage, Dr Susan Giles
Lead Student Investigator: -
Department: Psychological Sciences
Approval Date: 22/10/2019
Approval Expiry Date: Five years from the approval date listed above
The application was **APPROVED** subject to the following conditions:

Conditions of approval

- All serious adverse events must be reported to the Committee (ethics@liverpool.ac.uk) in accordance with the procedure for reporting adverse events.

- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.

- If you wish to make an amendment to the study, please create and submit an amendment form using the

- research ethics system. If the named Principal Investigator or Supervisor changes, or leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form within the research ethics system.

- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee A
ethics@liverpool.ac.uk
CURECA

Appendix 11 – Study 3 ethical approval

UNIVERSITY OF LIVERPOOL

Central University Research Ethics Committee A

28 October 2022

Dear Dr Giles,

I am pleased to inform you that the amendment to your study has been approved. Amendment details and conditions of approval can be found below. If applicable, Appendix A contains a list of documents approved by the Committee. **Amendment details**

Reference: 9784 (amendment)
Project Title: How does having access to sexual content online effect an adolescents offline sexual attitudes and behaviours.
Principal Investigator: Dr Susan Giles
Co-Investigator(s):   Mrs Amy Wood
Student Investigator(s): -
Department: Psychology
Approval Date: 28/10/2022

The amendment was **APPROVED** subject to the following conditions:

Conditions of approval

- All serious adverse events must be reported to the Committee (ethics@liv.ac.uk) in accordance with the procedure for reporting adverse events.

- If it is proposed to make further amendments to the study, please create and submit an amendment form within the research ethics system.

- It is the responsibility of the Principal Investigator or Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee A

CUREC-A (ethics@liverpool.ac.uk)

Appendix 12 – Study 3 part 1 pilot study information sheet

UNIVERSITY OF LIVERPOOL

Participant information sheet – focus group

Study Title: Access to sexualised media online and the effect this has on offline sexual attitudes and behaviours.

We would like you to help us with our research study explained below.

We are interested in young people's access to sexual content online and how this might affect their offline sexual development. We have created a survey to distribute to young people aged 13-17, but before we do this, we would like your opinion on the survey. Please read this information carefully. It is up to you if you want to do this. If you don't then that's fine. If you do, then you will be asked to fill out a consent form.

9. **Why are we doing this research?**
We would like to know how viewing or engaging in sexual content might affect healthy sexual development. We would like to know if this affects sexual attitudes and behaviours. We would also like to know what factors might influence young people's sexual development in a positive or negative way.

10. **What do you have to do?**
I will attend one of your youth groups and ask you and the other group members to comment on the survey information and questions. I will read out the information and questions and we will have a conversation about it in a group. I will then ask you questions like these;

1. Is the information sheet, consent form and questions easy to understand and clear?

2. How easy is it to respond to the questions?

3. Are there any answers you would give that aren't included in the survey?

4. Would you feel comfortable answering the questions?

I will then write down your group answers. I will not take any other information from you, I will not record your name, only your age bracket, and you will not be required to answer any questions in the survey.

11. **Why are you eligible to take part?**
You are eligible to take part because you are between 13 and 17 years of age.

12. **What happens to my comments?**
We will use your group comments to help us make the survey more understandable to young people before we send it out. We may upload anonymous data to journal publications if we publish our findings. This allows other researchers to check and rerun analyses. You will not be identifiable from this anonymous data.

13.   Is there anything to be worried about?

The questions that you will be looking at are questions about family and friends, what young people look at online, and about thoughts on sex and relationships, viewing nude images and pornographic material. You do not have to answer any of these questions as we are getting your opinions on the survey and not giving you the survey to answer.

14.   Will the study help you?

The study may not help you personally, but we hope that the study will help us to understand if viewing or engaging in sexual content affects healthy sexual development. The answers you give will also help us to make the survey better for young people to answer.

15.   What if you are unhappy or if there is a problem?

If you are unhappy about something, you can talk to a parent/carer, a youth worker, or a teacher. You can also ask an adult to contact the University of Liverpool. If you are worried about anything raised, then we will provide some services to phone or access in your own time.

16.   Will my information be kept private?

All of the information you give will be kept anonymous. Nobody will know it is you. The anonymized data will be stored on the universities secure database for 10 years and then it will be destroyed. We may upload anonymous data to journal publications if we publish our findings. This allows other researchers to check and rerun analyses. You will not be identifiable from this anonymous data.

17.   Where can I get support?

If you would like to talk to somebody about the issues raised you can talk to a parent/carer, friend, youth worker, or teacher. You can also talk to the researcher on the details below.

If you are worried about anything, you can contact any of the numbers or websites below.

- You can attend the Brook Wirral (**Free, confidential sexual health services for young people aged 19 and under in Wirral)** by booking an appointment on this number **0151 670 0177**

- You can attend make an appointment to see a Heath Services In Schools youth worker by speaking to your school or calling 01516663780.

- www.kooth.com   – Free, safe and anonymous online support for young people.

- www.youngminds.org.uk   – Supporting the wellbeing and mental health of young people.

- www.thinkuknow.co.uk – Educational advice and support to help young people stay safe online.

- Call Childline for free on 08001111 – Talk to somebody if you are worried.

- Call Wirral Councils Children and Young Persons helpline for free – 08081964147

- Chat to someone online from Wirral Councils helpline – https://itsneverokwirral.org/chat

Thank you for reading this.

Amy Wood School of Psychology University of Liverpool Eleanor Rathbone Building Liverpool L69 7ZA a.c.wood@liverpool.ac.uk	Dr Susan Giles School of Psychology University of Liverpool Eleanor Rathbone Building Liverpool L69 7ZA spgiles@liverpool.ac.uk 01517941427

Appendix 13 – Study 3 part 1 pilot study consent form

UNIVERSITY OF LIVERPOOL

Child consent form – FOCUS GROUP

Study Title: Access to sexualised media online and the effect this has on offline sexual attitudes and behaviours.

Please read these questions carefully and answer yes or no to each one. If you answer No to any of the questions, then you should not take part in the FOCUS GROUP.

I have read the information sheet	YES or NO
I understand that I will be looking at questions about sexual content and also about sexual activity	YES or NO
Do you understand what the focus group is about and what the questions you will answer are for?	YES or NO
Do you understand how your information will be used and why?	YES or NO
Do you understand that you don't have to answer all of the questions?	YES or NO
Do you understand how the information will be kept (locked offices/secure computers), by whom (Dr Giles), and for how long (10 years)?	YES or NO
Do you understand your information will be shared with other researchers but only in way that keeps your information anonymous (not about you personally)?	YES or NO
Are you happy to take part?	YES or NO

Appendix 14 – Study 3 part 1 information to caregivers

Participants for a pilot study focus group.

Dear parent/carer,

I am emailing to inform you about a focus group that is being held in a group your child attends.

I am a PhD student at the University of Liverpool studying Forensic Psychology. I am conducting a study that is investigating exposure to sexual content online and how this might affect an adolescent's sexual development in terms of attitudes and behaviours. Some young people aged 13-17 are starting to develop an interest in relationships and we would like to know how engaging with sexual material online might impact on their perspectives of sex and relationships. I am carrying out this research to aid in the development of a risk assessment tool that will assess adolescents risk taking behaviour on the internet. When developed, practitioners that work with young people will be able to use this with young people to support and safeguard them.

Before conducting this research, we would like to put the survey and the documentation to some groups of young people aged between 13 and 17 years of age. We will not be collecting any data from the young people, but we would like to ask them questions about the survey. Here are some examples of the questions we will be asking;

1. Is the information sheet, consent form and questions easy to understand and clear?

2. How easy is it to respond to the questions?

3. Are there any answers you would give that aren't included in the survey?

4. Would you feel comfortable answering the questions?

By gaining this feedback from young people, we will be able to make sure that the survey is accessible and understandable by young people of this age group and in turn, we will have a more effective survey created with young people in mind.

Your child will be given an information sheet on the focus group, and they will be asked to sign a consent form.

The focus group will take place on XXXXXX. We are informing you of this in case you do not want your child to take part.

If you have any questions, do not hesitate to contact me.

Kind regards

Amy Wood

Appendix 15 – Study 3 part 1 pilot study interview schedule

<u>Focus group interview questions.</u>

Information sheet
1. Do you think the information sheet easy to understand? Can you elaborate on your answer?
2. Is the information sheet clear? Why do you think this?
3. Does the information sheet give a clear explanation of the study and the expectations? Can you explain your answer?
4. Can you suggest any changes to this document?
5. Do you have any other comments or suggestions?

Consent form
6. Do you think the consent form easy to understand? Can you elaborate on your answer?
7. Is the consent form clear? Why do you think this?
8. Do you understand the questions that you will need to answer? Can you explain your answer?
9. Do you think the questions are easy to respond to? Why do you think this?
10. Do you understand why you need to fill in a consent form? Can you explain your answer?
11. Can you suggest any changes to this document?
12. Do you have any other comments or suggestions?

Survey questions
13. Do you think the survey easy to understand? Can you elaborate on your answer?
14. Is the survey clear? Why do you think this?
15. Do you understand the questions that you will need to answer? Can you explain your answer?
16. Do you think the questions are easy to respond to? Can you explain your answer?
17. Are there any answers you would give that aren't included in the survey? If not, can you tell me what you think we should include?
18. Would you feel comfortable answering the questions? Why do you think this?
19. Can you suggest any changes to this document?
20. Do you have any other comments or suggestions?

Appendix 16 – Study 3 part 1 Pilot study findings

Focus group findings.

Participants – 21, aged 13-17 and 10 identify as LGBT+

Information sheet

Young people felt this was well worded and written in a simple enough way. They felt that it had everything included and it had enough detail.

Suggestion

- Make all consent words bold.

Consent form

Well written. Words and sentences are small and simple that will accommodate target age range.

Suggestions

- Make all consent words bold.
- Change first three statements to questions in line with the rest of them.

Survey

All Participants said they would feel comfortable answering all of the questions and they understood them.

Suggestions

- **Change genders.**
    - Cis-female (female gender at birth)
    - Cis-male (male gender at birth)
    - Trans-male
    - Trans-female
    - Under the non-binary umbrella (e.g., gender fluid)
    - Other
    - Prefer not to say
- **Change sexuality.**
    - Heterosexual/straight
    - Gay
    - Lesbian
    - Bisexual
    - Pansexual
    - A-sexual
    - Questioning
    - Prefer not to say
    - Other.

- Change 'I have had a sexual conversation with someone I know' to 'I talk about sex with my friends' and 'I talk sexually with someone I know'.
- Change 'my friends meet their romantic partners online' to 'my friends first meet their romantic partners online',
- Change 'I have kissed someone' to 'I have romantically/sexually kissed someone'.
- Change 'contraception spoils sex' to 'barrier method contraception (E.G., condoms) spoils sex'.
- Change 'I feel happy' to 'I feel happy most of the time'.
- Change 'going out with someone older is ok' to 'dating an adult is ok'.

All changes to the survey have been made.

Access to sexualised media online and the effect this has on offline sexual attitudes and behaviour

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Start of Block: Participant information sheet

Q1 <u>**Study Title:**</u> Access to sexualised media online and the effect this has on offline sexual attitudes and behaviours.

We would like you to help us with our research study explained below. We are interested in young people's access to sexual content online and how this might affect their offline sexual development when they are teenagers and when they become young adults. . Please read this information carefully and talk to a friend of family member about the study. Take time to decide if you want to take part. It is up to you if you want to do this. If you don't then that's fine.

1. Why are we doing this research?
We would like to know how viewing or engaging in sexual content might affect healthy sexual development. We would like to know if this affects sexual attitudes and behaviours. We would also like to know what factors might influence young people's sexual development in a positive or negative way and whether this affect continues into adulthood.

2. What do you have to do?
If you decide that you would like to take part in the research, you will be taken to another page where you will be asked to consent. **You do not have to consent if you don't want to.** After this you will be taken to the survey where you will be asked questions. These questions are about your sexual attitudes and behaviours, your family relationships and your mental health. The survey will ask you to reflect on the past when you were in high school and also the present day. Once this is finished you will be taken to a page that will give you some information before you finish.

3. Why are you eligible to take part?
You are eligible to take part because you are between 18 and 21 years of age.

4. Do I have to take part?
No, it is your choice if you take part or not. Once you have read the information, if you would like to take part then you will be asked to confirm this on the next page. After this, you are still free to stop taking part before you submit your answers in the survey. Once the survey is submitted, you cannot withdraw. This is because we will not be able to identify which survey

is yours.

5. Is there anything to be worried about?
The questions that you will be asked will include questions about your family and friends, what you look at online, and your thoughts on sex and relationships. You will be asked questions about viewing nude images and pornographic material. You will be asked to think back to your past. If this is worrying then it is best that you do not take part. You do not have to answer all of the questions if you feel uncomfortable and you can stop the survey at any time.

6. Will the study help you?
The study may not help you personally, but we hope that the study will help us to understand if viewing or engaging in sexual content affects healthy sexual development.

7. What if you are unhappy or if there is a problem?
If you are unhappy about something, you can talk to a friend or family member. You can also contact the University of Liverpool. If you are worried about anything raised, then we will provide some services to phone or access in your own time.

8. Will my information be kept private?
All of the information you give will be kept anonymous. You will be given a participant number, which means that you will be identified by a number so people do not know who you are. We will not take your name. Nobody will know it is you. The anonymized data will be stored on the universities secure database for 10 years and then it will be destroyed. Only the researchers will have access to it.

9. Where can I get support?
If you would like to talk to somebody about the issues raised you can talk to a family member of a friend. You can also talk to the researchers by emailing spgiles@liverpool.ac.uk

If you are worried about anything, you can contact any of the numbers or websites below.

- **https://www.mind.org.uk** – Supporting the wellbeing and mental health of people.

- **https://www.ceop.police.uk/Safety-Centre** – Educational advice and support to help people stay safe online.

- **www.liverpoolcamhs.com/support-category/18-25-years-old** - mental health advice and support for 18-25 year olds.

Thank you for reading this. You will now be taken to the next page.

End of Block: Participant information sheet

Start of Block: Consent form

Q2 Please read these questions carefully and answer yes or no to each one. If you answer **No** to any of the questions then you should **not take part in the survey.**

	Participant consent	
	Yes (1)	No (2)
Have you read the information sheet on the previous page? (1)	○	○
Do you understand that you will be answering questions about sexual content you view and also about sexual activity? (2)	○	○
Are you happy to answer questions about sexual content and sexual activity? (3)	○	○
Do you understand what the study is about and what the questions you will answer are for? (4)	○	○
Do you understand how your information will be used and why? (5)	○	○
Do you understand that you can withdraw and quit (without any problems) up to the point that you submit the survey? (6)	○	○
Do you understand that you don't have to answer all of the questions? (7)	○	○
Do you understand how the information will be kept, by whom, and for how long? (locked offices/secure computers by Dr Giles for 10 years) (8)	○	○
Do you understand your information will be shared with other researchers but only in ways that keeps your information anonymous (not about you personally)? (9)	○	○
Are you happy to take part? (10)	○	○

End of Block: Consent form

Start of Block: Descriptives

Q3 What is your age?

○ 18 (1)

○ 19 (2)

○ 20 (3)

○ 21 (4)

Q4 What gender do you identify with?

○ Cis-female (female gender at birth) (1)

○ Cis-male (male gender at birth) (2)

○ Trans-female (3)

○ Trans-male (4)

○ Under the non-binary umbrella (e.g. gender fluid) (5)

○ Prefer not to say (6)

○ Other (7)

Q5 What sexuality do you identify with?

○ Heterosexual/straight (1)

○ Gay (2)

○ Lesbian (3)

○ Bisexual (4)

○ Pansexual (5)

○ A-sexual (6)

○ Questioning (7)

○ Prefer not to say (8)

○ Other (9)

End of Block: Descriptives

Start of Block: Block 3

Q6 Please answer the following questions thinking back to when you were in high school, approximately aged 13-16.

End of Block: Block 3

Start of Block: Social media

Q8 Thinking back to high school, how often did you go on social media, including online gaming?

	Never (1)	Less than monthly (2)	Monthly (3)	Weekly (4)	Daily (5)
Please pick on response (1)	○	○	○	○	○

End of Block: Social media

Start of Block: Family Relationships

Q9 Thinking back to high school, read each statement and pick the response that is closest to how you feel.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I had a good relationship with my parent/carer (1)	○	○	○	○	○
I had a good relationship with at least one member of my family (2)	○	○	○	○	○
I felt that I could talk to my parent/carer about my problems (3)	○	○	○	○	○

End of Block: Family Relationships

Start of Block: Monitoring level

Q10 Thinking back to high school, how do you think your parents/carers monitored your internet access?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
My parent/carer monitored my social media use (1)	○	○	○	○	○
My parent/carer monitored what I did on the internet (2)	○	○	○	○	○
My parent/carer didn't know what I got up to online (3)	○	○	○	○	○
I had restrictions on my devices (4)	○	○	○	○	○
I felt that my parent/carer was strict (5)	○	○	○	○	○

End of Block: Monitoring level

Start of Block: Secrecy

Q11 Thinking back to high school, how open do you think you were with your parents/carers?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I kept secrets from my parent/carer if I thought I would get into trouble (1)	○	○	○	○	○
I did not like my parent/carer to see what I posted on my social media (2)	○	○	○	○	○
I did not like my parent/carer to see what I did on the internet (3)	○	○	○	○	○
I did not want my parent/carer to know what I got up to with my friends (4)	○	○	○	○	○
If my friends were doing something risky, I would tell an adult (5)	○	○	○	○	○
I did not tell my parent/carer about my romantic relationships (6)	○	○	○	○	○

End of Block: Secrecy

Start of Block: Sex and relationship education

Q12 These statements are about how you were educated on sex, relationships and the internet when you were in high school.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
My school delivered sex and relationship education once or more a year (1)	○	○	○	○	○
I feel that my school delivered effective sex and relationship education (2)	○	○	○	○	○
My school delivered internet safety education once or more a year (3)	○	○	○	○	○
I feel that my school delivered effective internet safety education (4)	○	○	○	○	○
I learnt about sex from pornography (5)	○	○	○	○	○
I learnt about sex from social media (6)	○	○	○	○	○
I learnt about sex from my caregiver/school (7)	○	○	○	○	○
I learnt about sex from my friends (8)	○	○	○	○	○
I do not feel that I knew much about sex and relationships when I was in high school (9)	○	○	○	○	○
I do not feel that I knew much about internet safety when I was in high school (10)	○	○	○	○	○

End of Block: Sex and relationship education

Start of Block: Technology assisted sexual fluency (self)

Q13 The following statements relate to your experiences when you were in high school. Thinking back, pick the response that relates to your opinion.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I viewed pornography on the internet (1)	○	○	○	○	○
I was sent pornography on the internet (2)	○	○	○	○	○
I was sent nudes of someone I know (3)	○	○	○	○	○
I was sent nudes of someone I don't know (4)	○	○	○	○	○
I sent someone I know nudes of myself (5)	○	○	○	○	○
I sent someone I don't know nudes of myself (6)	○	○	○	○	○
I passed on to other nudes that I have been sent (7)	○	○	○	○	○
I talked sexually with someone that I know on the internet (8)	○	○	○	○	○
I talked sexually with someone that I don't know on the internet (9)	○	○	○	○	○
Someone tried to talk sexually with me on the internet (10)	○	○	○	○	○
I told an adult if I was sent a nude (11)	○	○	○	○	○

I told an adult if someone tried to talk sexually with me (12)	○	○	○	○	○
I enjoyed sending and getting nudes and talking sexually online (13)	○	○	○	○	○
I found pornography easily accessible on social media (14)	○	○	○	○	○
Sexual material was easy to get hold of online (15)	○	○	○	○	○
I talked about sex with my friends (16)	○	○	○	○	○

End of Block: Technology assisted sexual fluency (self)

Start of Block: Friends technology assisted sexual fluency

Q14 The following statements relate to your friends experiences when you were in high school. Thinking back, pick the response that you think best relates to your friends.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
My friends often sent people nudes of themselves (1)	○	○	○	○	○
My friends often got sent nudes (2)	○	○	○	○	○
My friends met up with people off the internet (3)	○	○	○	○	○
My friends talked sexually on the internet (4)	○	○	○	○	○
My friends met their romantic partners online (5)	○	○	○	○	○

End of Block: Friends technology assisted sexual fluency

Start of Block: Sexual behaviours offline

Q15 The following statements relate to sexual behaviours and relationships in high school.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I was in a relationship at some point in high school (1)	○	○	○	○	○
I romantically/sexually kissed someone (2)	○	○	○	○	○
I engaged in sexual activity with someone (3)	○	○	○	○	○
I engaged in sexual intercourse with someone (4)	○	○	○	○	○
I contracted a sexually transmitted infection (STI) (5)	○	○	○	○	○
I have been pregnant or got someone pregnant in the past. (6)	○	○	○	○	○
I enjoyed having sex (7)	○	○	○	○	○
I did things that I had seen in pornography (8)	○	○	○	○	○
I knew the person that I had engaged in sexual activity with beforehand (9)	○	○	○	○	○
I always used contraception (10)	○	○	○	○	○

End of Block: Sexual behaviours offline

Start of Block: Sexual attitudes/beliefs

Q16 Thinking back to how you felt in high school, please pick responses to the statements that you think best describe what you would have thought.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Girls are pressured into sending nudes (1)	○	○	○	○	○
Girls are expected to send nudes (2)	○	○	○	○	○
Boys expect you to send nudes more than girls do (3)	○	○	○	○	○
Loads of people send nudes, it's just normal (4)	○	○	○	○	○
Talking sexually on the internet with people you don't know is dangerous (5)	○	○	○	○	○
Boys are in control in a relationship (6)	○	○	○	○	○
Everyone watches porn (7)	○	○	○	○	○
Many girls feel that they should do what their partner wants them to do (8)	○	○	○	○	○
Dating an adult is ok (9)	○	○	○	○	○
I worry about having sex in case I do it wrong (10)	○	○	○	○	○
I will wait to have sex until I feel ready (11)	○	○	○	○	○
I compare my body to people in pornography (12)	○	○	○	○	○

If your partner wants you to have sex with them, you should do it. (13)	○	○	○	○	○
It is up to me what happens to my body (14)	○	○	○	○	○
Sexting is a normal part of flirting (15)	○	○	○	○	○
If you are flirting with someone and they try to kiss you, you should let them (16)	○	○	○	○	○
Sending nudes is illegal (17)	○	○	○	○	○
Sex in pornography is not like in real life (18)	○	○	○	○	○
Pornography encourages young people to have less romantic sex (19)	○	○	○	○	○
I have done something sexually that I wasn't particularly keen on, but I did it because I had seen it in pornography (20)	○	○	○	○	○
I have done something sexually that I wasn't particularly keen on, but I did it because my partner had seen it in pornography (21)	○	○	○	○	○

Violent or aggressive pornography excites me (22)	○	○	○	○	○
Barrier method contraception (e.g. condoms) spoils sex (23)	○	○	○	○	○

End of Block: Sexual attitudes/beliefs

Start of Block: Mental health

Q17 Thinking back to how you felt in high school, please pick responses to the statements that you think best describe what you would have thought.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I liked my body (1)	○	○	○	○	○
I had the confidence to say no to something I didn't want to do (2)	○	○	○	○	○
I struggled with my mental health (3)	○	○	○	○	○
I used lots of filters on social media to make myself look better (4)	○	○	○	○	○
I liked my life (5)	○	○	○	○	○
I didn't find anything fun (6)	○	○	○	○	○
I thought about get plastic surgery (7)	○	○	○	○	○
I felt happy most of the time (8)	○	○	○	○	○
I worried about lots of things (9)	○	○	○	○	○
I was excited for my future (10)	○	○	○	○	○
I was worried about my friends taking risks online (11)	○	○	○	○	○
I was worried about taking risks online (12)	○	○	○	○	○

End of Block: Mental health

Start of Block: Block 14

Q19 The next set of questions relate to how you think and feel now.

End of Block: Block 14

Start of Block: Social media

Q20 How often do you go on social media

	Never (1)	Less than monthly (2)	Monthly (3)	Weekly (4)	Daily (5)
Please pick one response (1)	○	○	○	○	○

End of Block: Social media

Start of Block: Family relationships

Q21 Please pick a response that relates to how you feel now.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have a good relationship with my parent/carer (1)	○	○	○	○	○
I have a good relationship with at least one member of my family (2)	○	○	○	○	○
I feel that I can talk to my parent/carer about my problems (3)	○	○	○	○	○

End of Block: Family relationships

Start of Block: Technology assisted sexual fluency (self)

Q22 Please read the following statements and pick the response that you relate to the most

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have viewed pornography on the internet (1)	○	○	○	○	○
I have been sent pornography on the internet (2)	○	○	○	○	○
I have been sent nudes of someone I know (3)	○	○	○	○	○
I have been sent nudes of someone I don't know (4)	○	○	○	○	○
I have sent someone I know nudes of myself (5)	○	○	○	○	○
I have sent someone I don't know nudes of myself (6)	○	○	○	○	○
I have passed on to others nudes that I have been sent (7)	○	○	○	○	○
I have talked sexually with someone that I know on the internet (8)	○	○	○	○	○
I have talked sexually with someone that I don't know on the internet (9)	○	○	○	○	○
Someone has tried to talk sexually with me on the internet (10)	○	○	○	○	○

I told an adult if I was sent a nude (11)	○	○	○	○	○
I told an adult if someone tried to talk sexually with me (12)	○	○	○	○	○
I enjoy sending and getting nudes and talking sexually online (13)	○	○	○	○	○
I have found pornography easily accessible on social media (14)	○	○	○	○	○
Sexual material is easy to get hold of online (15)	○	○	○	○	○
I talk about sex with my friends (16)	○	○	○	○	○

End of Block: Technology assisted sexual fluency (self)

Start of Block: Friends technology assisted sexual fluency

Q23 The next set of statements relate to what you think your friends do.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
My friends send people nudes of themselves (1)	○	○	○	○	○
My friends often get sent nudes (2)	○	○	○	○	○
My friends meet up with people off the internet (3)	○	○	○	○	○
My friends talk sexually on the internet (4)	○	○	○	○	○
My friends meet their romantic partners online (5)	○	○	○	○	○

End of Block: Friends technology assisted sexual fluency

Start of Block: Sexual behaviours offline

Q24 These statements relate to your current sexual behaviours and relationships.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am in a relationship or have been in one in the past (1)	○	○	○	○	○
I have romantically/sexually kissed someone (2)	○	○	○	○	○
I have engaged in sexual activity with someone (3)	○	○	○	○	○
I have had sexual intercourse with someone (4)	○	○	○	○	○
I have had a sexually transmitted infection (STI) (5)	○	○	○	○	○
I have been pregnant or got someone pregnant (6)	○	○	○	○	○
I enjoy having sex (7)	○	○	○	○	○
I do things that I have seen in pornography (8)	○	○	○	○	○
I knew the person that I have engaged in sexual activity with beforehand (9)	○	○	○	○	○
I always use contraception (10)	○	○	○	○	○

End of Block: Sexual behaviours offline

Start of Block: Sexual attitudes and beliefs

Q25 These statements relate to your current sexual attitudes and beliefs.

	Strongly disagree (1)	Somewhat disagree (5)	Neither agree nor disagree (2)	Somewhat agree (3)	Strongly agree (4)
Girls are pressured into sending nudes (1)	○	○	○	○	○
Girls are expected to send nudes (2)	○	○	○	○	○
Boys expect you to send nudes more than girls do (3)	○	○	○	○	○
Loads of people send nudes, it's just normal (4)	○	○	○	○	○
Talking sexually on the internet with people you don't know is dangerous (5)	○	○	○	○	○
Boys are in control in a relationship (6)	○	○	○	○	○
Everyone watches porn (7)	○	○	○	○	○
Many girls feel that they should do what their partner wants them to do (8)	○	○	○	○	○
Dating an adult is ok. (9)	○	○	○	○	○
I worry about having sex in case I do it wrong (10)	○	○	○	○	○
I will wait to have sex until I feel ready (11)	○	○	○	○	○
I compare my body to people in pornography (12)	○	○	○	○	○

If your partner wants you to have sex with them, you should do it (13)	○	○	○	○	○
It is up to me what happens to my body (14)	○	○	○	○	○
Sexting is a normal part of flirting (15)	○	○	○	○	○
If you are flirting with someone and they try to kiss you, you should let them (16)	○	○	○	○	○
Sending nudes is illegal (17)	○	○	○	○	○
Sex in pornography is not like in real life (18)	○	○	○	○	○
Pornography encourages young people to have less romantic sex (19)	○	○	○	○	○
I have done something sexually that I wasn't particularly keen on, but I did it because I had seen it in pornography. (20)	○	○	○	○	○
I have done something sexually that I wasn't particularly keen on, but I did it because my partner had seen it in pornography (21)	○	○	○	○	○

Violent or aggressive pornography excites me. (22)	○	○	○	○	○
Barrier method contraception (e.g. condoms) spoils sex (23)	○	○	○	○	○

End of Block: Sexual attitudes and beliefs

Start of Block: Mental health

Q26 These next set of statements are asking you about your mental health

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I like my body (1)	○	○	○	○	○
I have the confidence to say no to something I don't want to do (2)	○	○	○	○	○
I struggle with my mental health. (3)	○	○	○	○	○
I use lots of filters on social media to make myself look better (4)	○	○	○	○	○
I like my life (5)	○	○	○	○	○
I don't find anything fun anymore (6)	○	○	○	○	○
I would get plastic surgery (7)	○	○	○	○	○
I feel happy most of the time (8)	○	○	○	○	○
I worry about lots of things (9)	○	○	○	○	○
I am excited for my future. (10)	○	○	○	○	○
I am worried about my friends taking risks online (11)	○	○	○	○	○
I am worried about taking risks online (12)	○	○	○	○	○

End of Block: Mental health

Start of Block: Block 20

Q27
Thank you for taking part in this research.
 The reason why we did this research is because we wanted to understand what affects viewing or engaging in sexual content has on sexual development.

 The aim of the study is to understand what types of sexual content contributes to unhealthy sexual attitudes and behaviours and whether there are any factors that might limit this effect. In addition, by gaining insights into young adults compared to young people will enable us to examine whether the effects are longer term. We aim to make some sessions to deliver to young people to help them understand internet dangers and stay safe online. We also aim to develop a risk assessment tool to enable professionals to help young people more effectively. We would like young people to feel confident to be able to tell an adult if they experience something negative and know how to get help if they need to.

 Thank you for your time and effort in this important research. If you would like to talk to somebody about the issues raised you can talk to a member of your family or a friend. You can also talk to the researchers by emailing spgiles@liverpool.ac.uk

 If you are worried about anything that you have talked about you can contact any of the numbers or websites below.

 • **https://www.mind.org.uk** – Supporting the wellbeing and mental health of people.

 • **https://www.ceop.police.uk/Safety-Centre** – Educational advice and support to help people stay safe online.

 • **www.liverpoolcamhs.com/support-category/18-25-years-old/** - mental health advice and support for 18-25 year olds.

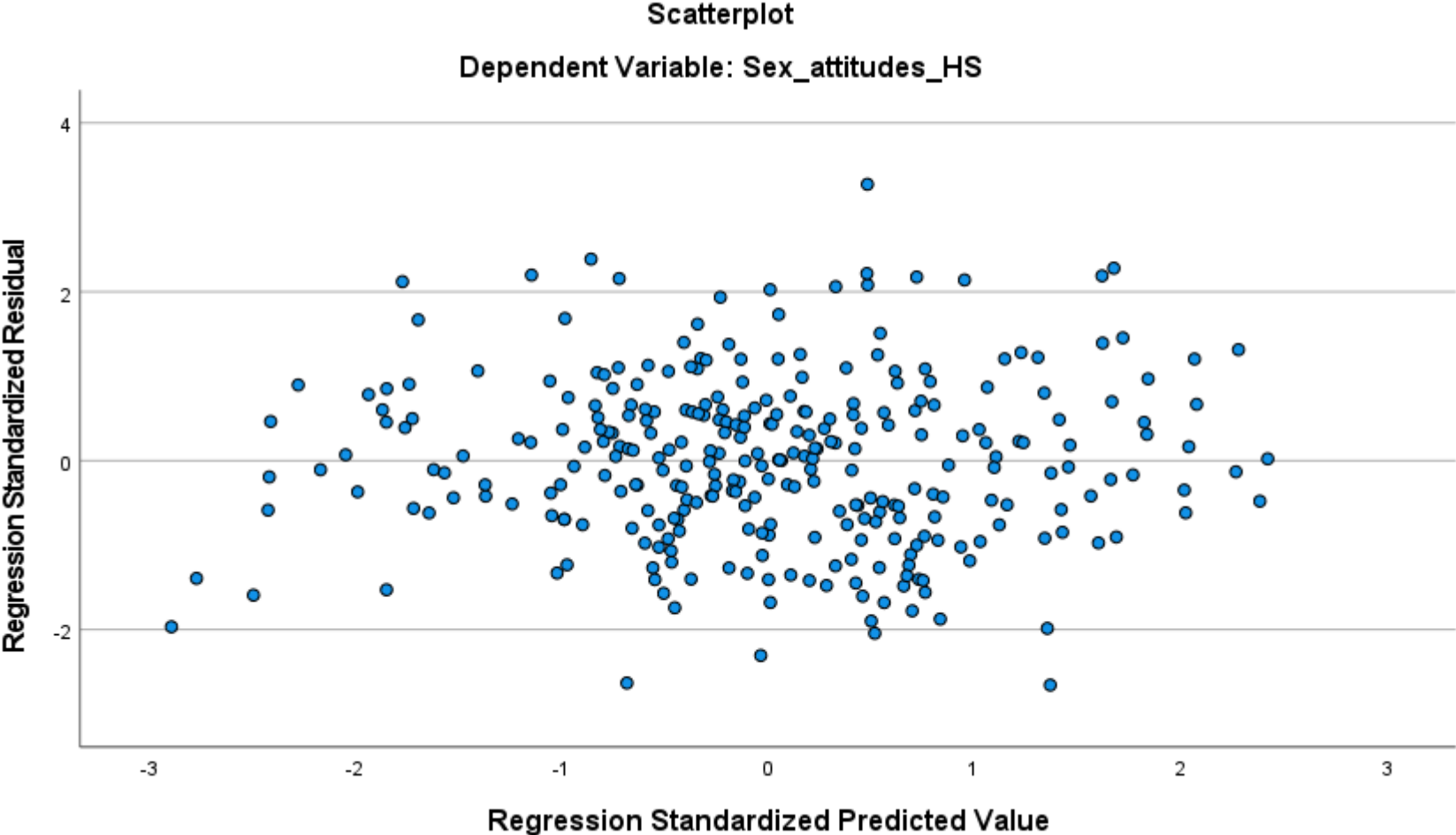**End of Block: Block 20**

Appendix 18 – Study 3 part 1 distribution plot for sexual attitudes and predictor

variables in high school

Normal P-P Plot of Regression Standardized Residual
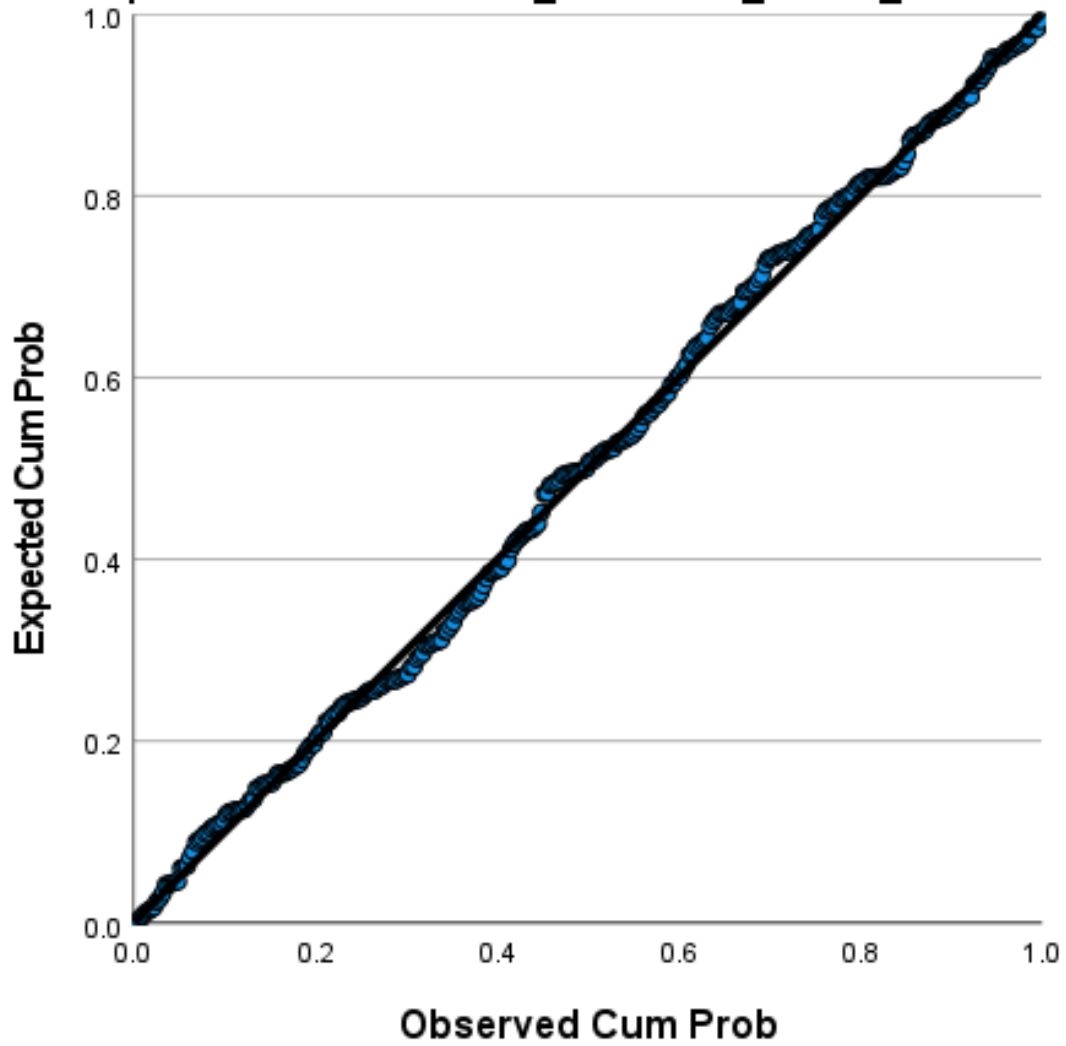
Dependent Variable: Sex_attitudes_HS
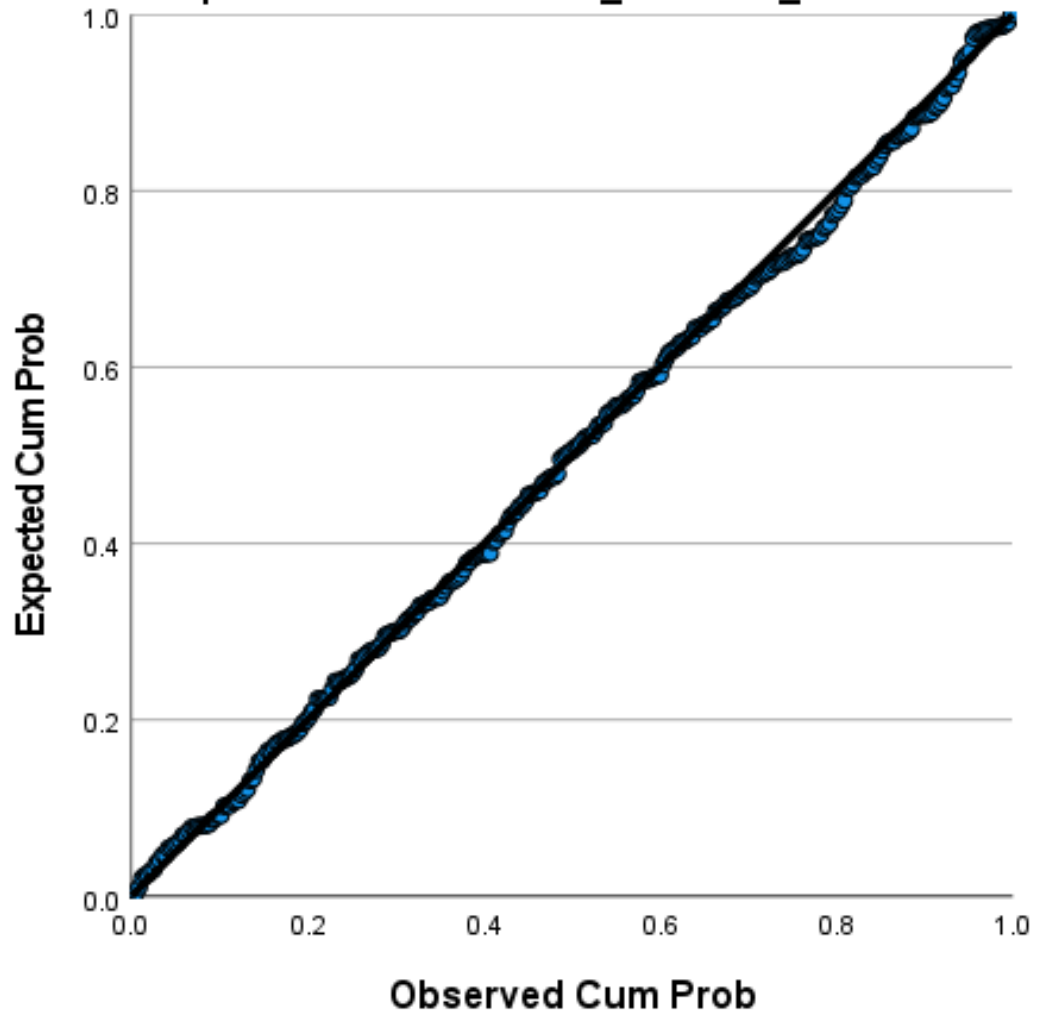
Appendix 19 – Study 3 part 1 scatter plot for sexual attitudes and predictor variables in high school

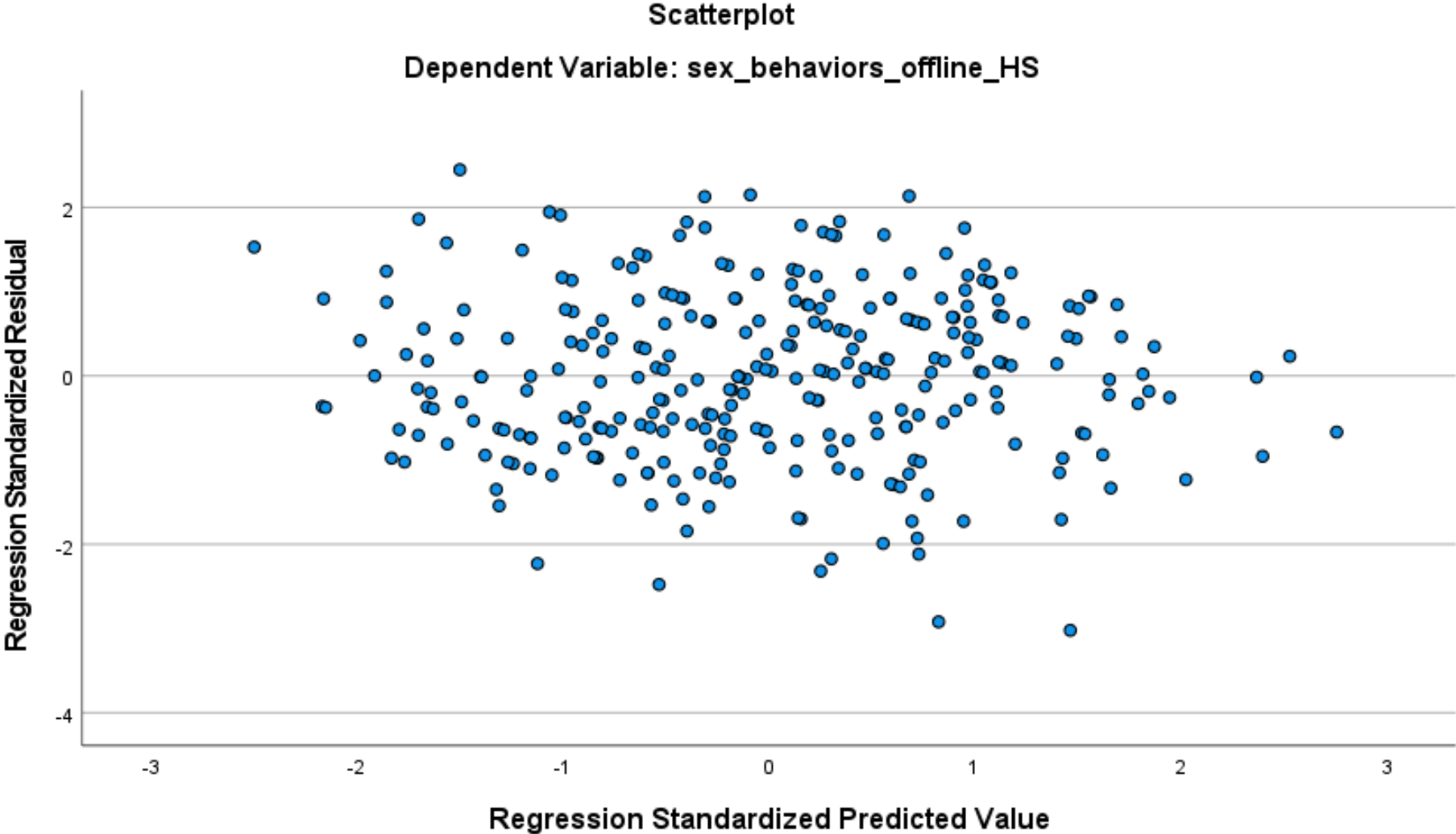Scatterplot
Dependent Variable: Sex_attitudes_HS

Appendix 20 – Study 3 part 1 distribution plot for sexual behaviours and predictor variables in high school

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: sex_behaviors_offline_HS

Appendix 21 – Study 3 part 1 scatter plot for sexual behaviours and predictor variables in high school

Scatterplot

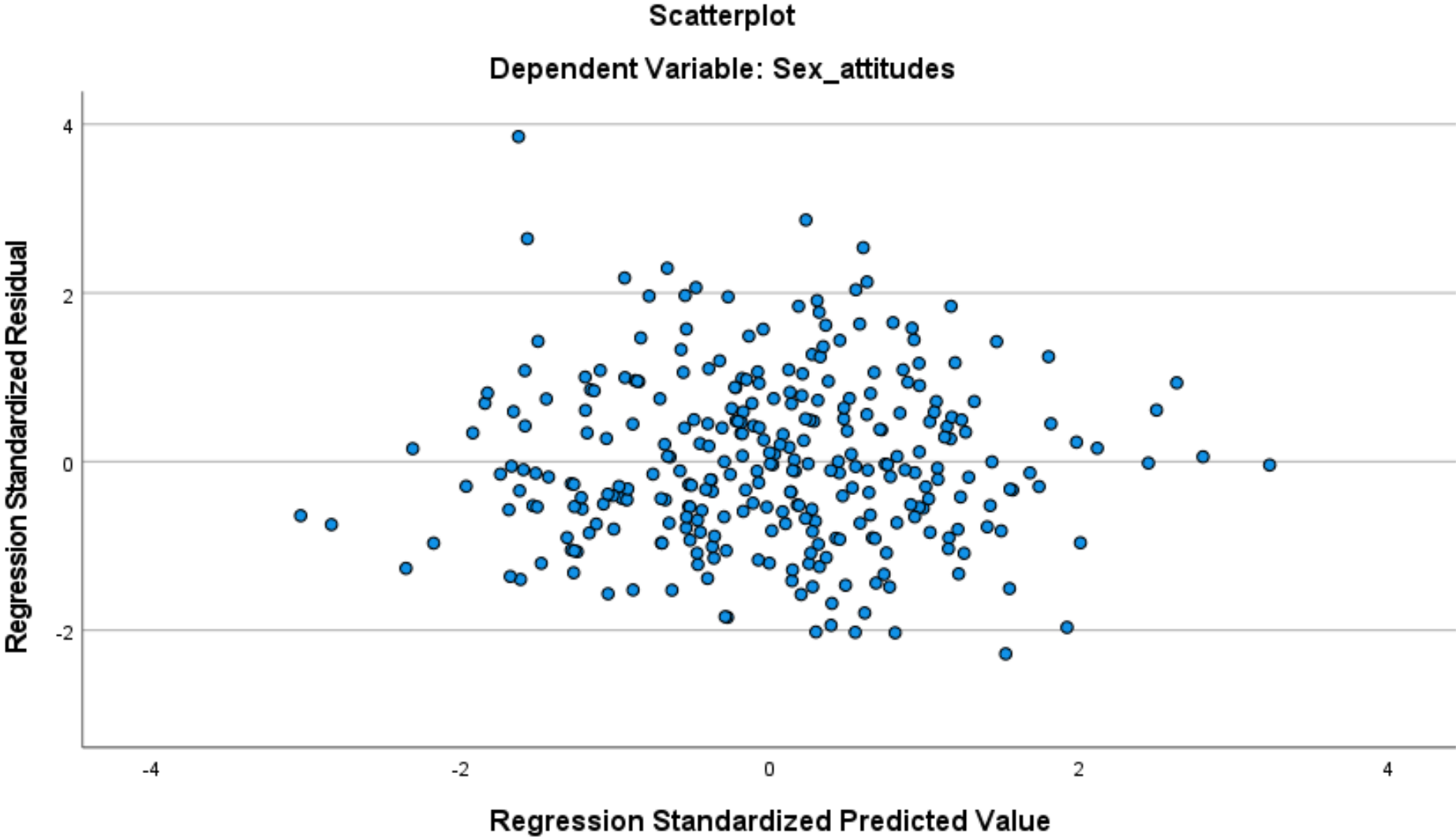Dependent Variable: sex_behaviors_offline_HS

Appendix 22 – Study 3 part 2 distribution plot for sexual attitudes and predictor variables in Adulthood

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Sex_attitudes
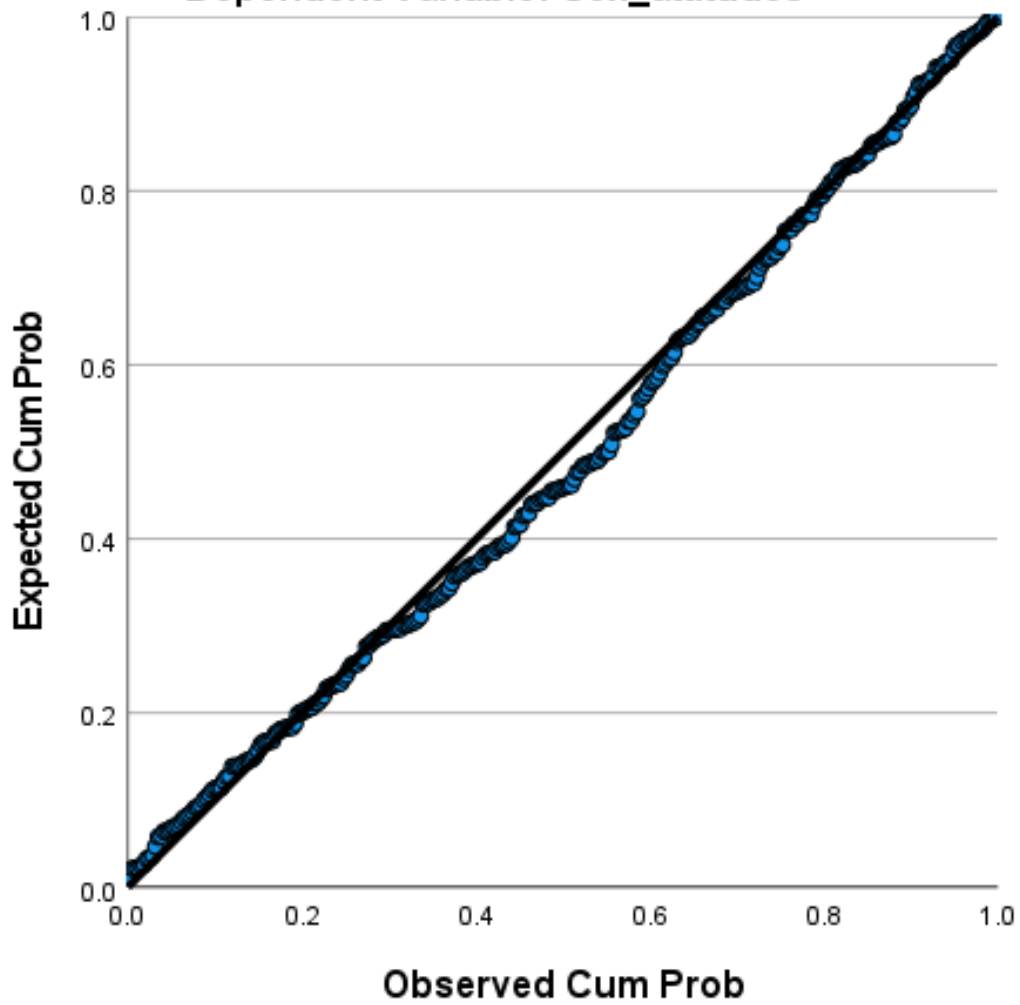
Appendix 23 – Study 3 part 2 scatter plot for sexual attitudes and predictor variables in adulthood

Scatterplot

Dependent Variable: Sex_attitudes

Appendix 24 – Study 3 part 2 distribution plot for sexual behaviours and predictor variables in Adulthood

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: sex_behaviours_offline
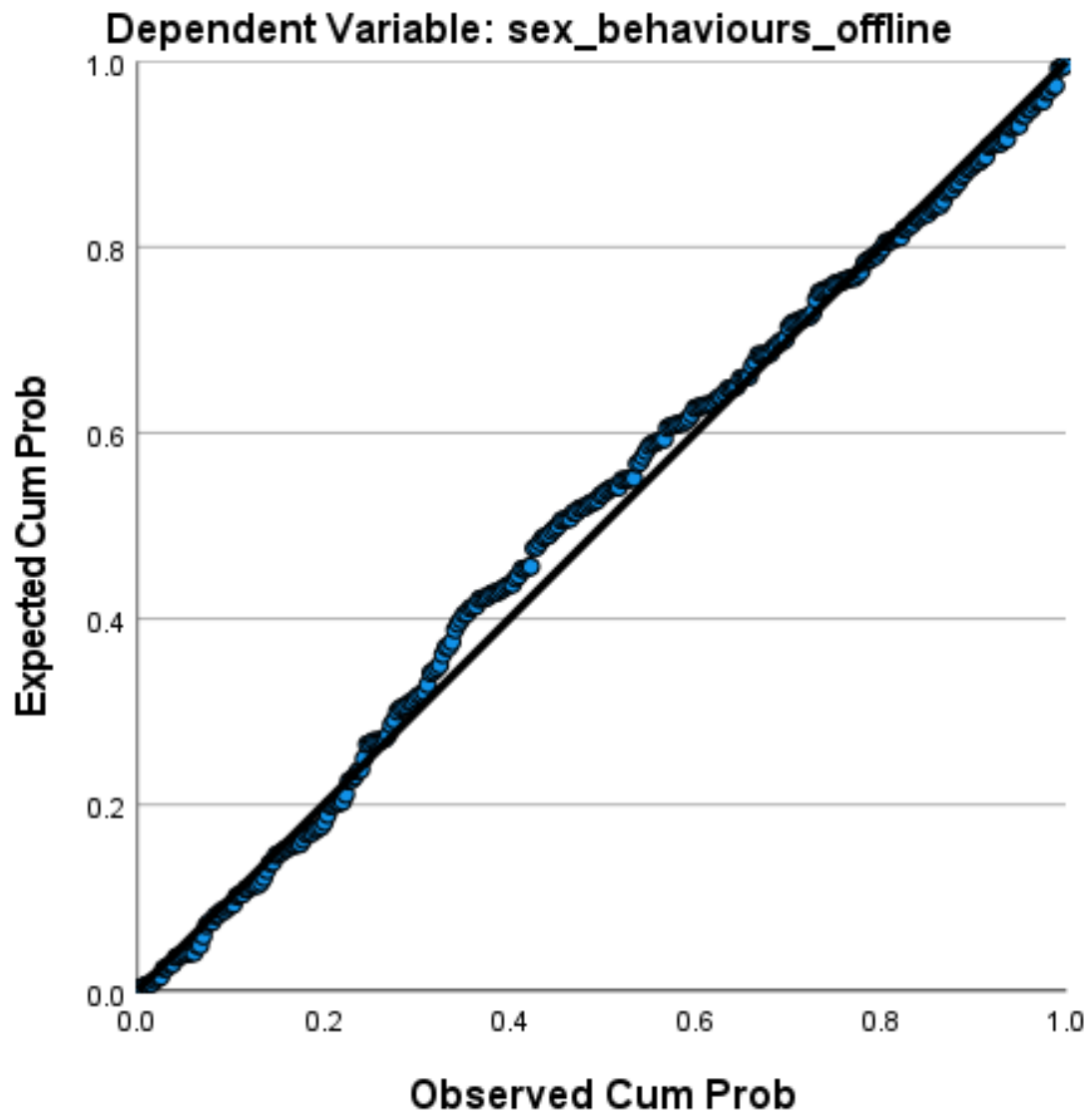
Appendix 25 – Study 3 part 2 scatter plot for sexual behaviours and predictor variables in adulthood

Scatterplot

Dependent Variable: sex_behaviours_offline

Regression Standardized Residual (y-axis)

Regression Standardized Predicted Value (x-axis)