

# CHILDREN AND YOUNG PEOPLE WHO ENGAGE IN TECHNOLOGY-ASSISTED HARMFUL SEXUAL BEHAVIOUR

A STUDY OF THEIR BEHAVIOURS,  
BACKGROUNDS AND CHARACTERISTICS

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# Impact and Evidence series

This report is part of the NSPCC's Impact and Evidence series, which presents the findings of the Society's research into its services and interventions. Many of the reports are produced by the NSPCC's Evaluation department, but some are written by other organisations commissioned by the Society to carry out research on its behalf. The aim of the series is to contribute to the evidence base of what works in preventing cruelty to children and in reducing the harm it causes when abuse does happen.

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# GLOSSARY OF TERMS

**AIM project:** A registered charity set up in Manchester who have developed a range of tools for assessment and intervention with children and young people who display sexually harmful behaviour

**Dual HSB:** Engagement in both technology-assisted and offline harmful sexual behaviour

**HSB:** Harmful sexual behaviour

**Offline HSB:** Harmful sexual behaviour engaged in offline

**TA-HSB:** Technology-assisted harmful sexual behaviour

# KEY FINDINGS

Very little is known about the harmful sexual behaviours (HSB) assisted by technology that children and young people engage in. The current research therefore aimed to:

- Explore the prevalence of the technology-assisted harmful sexual behaviour (TA-HSB) displayed by 275 children and young people being assessed for the NSPCC’s Turn the Page harmful sexual behaviour service;
- Explore the range of TA-HSB displayed by young males accessing this service and compare the backgrounds and characteristics of those with TA-HSB only (n=21), offline HSB only (n=35), and dual TA and offline HSB (n=35);
- Investigate the association between TA-HSB and offline HSB; and
- Investigate professional involvement with, and response to, TA-HSB.

We define technology-assisted harmful sexual behaviour (TA-HSB) as:

*“One or more children engaging in sexual discussions or acts – using the internet and/or any image-creating/sharing or communication device – which is considered inappropriate and/or harmful given their age or stage of development. This behaviour falls on a continuum of severity from the use of pornography to online child sexual abuse.”*

These behaviours may be harmful only to the young person engaging in them, or may be directly harmful to another person.

Our key findings were as follows:

- TA-HSB was engaged in by almost half (46 per cent) of the children and young people accessing this service and a range of TA-HSB was identified. These behaviours spanned the harmful sexual behaviour continuum from inappropriate sexual behaviour (for example, the developmentally inappropriate use of pornography) to abusive sexual behaviour (for example, the online sexual abuse of another person, such as inciting them to engage in sexual activity online).
- It was rare for children and young people to engage in TA-HSB alone (7 per cent of the sample) without also engaging in offline HSB (46 per cent). An integrated assessment model that explores both types of HSB together, as opposed to assessing them individually, may therefore be beneficial.



- A stronger association was identified between the developmentally inappropriate use of pornography (for example, by children under the age of 13) and offline HSB compared with other forms of TA-HSB. The former was noted as a trigger for offline HSB in over half the cases while the latter tended to occur, on average, three years after the onset of offline HSB. This highlights the importance of an appropriate professional response to, assessment of, and intervention with, pornography use.
- There were differences in the backgrounds and characteristics of young males with TA-HSB compared with dual and offline HSB, which may highlight different developmental trajectories leading to this behaviour. Those with dual HSB were similar to those with offline HSB and the offline HSB may therefore be the driving behaviour. Intervention to address the needs of those with TA-HSB may therefore need to focus on different areas to that with young people with dual HSB.
- A more punitive response was taken towards the young males with TA-HSB (only) compared with those displaying offline HSB or dual HSB (for example, criminal justice involvement versus a more therapeutic response). Differences in professional perceptions of, and the ability to recognise, TA-HSB were also highlighted. This requires further exploration and has wider training implications for professionals working with children and young people.

The findings from this research are being used by the NSPCC and AIM project to develop a training package for professionals working to assess children and young people with TA-HSB.

# EXECUTIVE SUMMARY

## Background

The internet plays a major role in young peoples' developing self-identity, sexuality and self-expression and may offer some children and young people an outlet for harmful sexual thoughts and urges. Emerging research has shown, for example, how children under 18 years of age access and distribute indecent images of children, sexually solicit other young people online, and groom others online to facilitate online and offline sexual abuse. The findings from four previous research studies with young males (aged 12–20) who accessed indecent images of children have highlighted differences in their backgrounds and characteristics compared with those who have carried out contact sexual offences. These findings are broadly in line with the differences identified between adult online and offline sexual offenders.

However, further research is needed in this area. This should draw upon larger populations of children and young people, explore the full range of technology-assisted harmful sexual behaviours (TA-HSB) they engage in (moving away from focusing mainly on indecent images of children), and investigate the characteristics of those with dual offline and TA-HSB. This was, therefore, the focus of the current research, which had four main objectives:

1. To explore the prevalence and range of TA-HSB displayed by the children and young people (male and female aged 5–18 years old, including those with a learning difficulty) being assessed within the NSPCC's Turn the Page service for HSB.
2. To explore and compare the characteristics of a sub-sample of young males:
  - a. whose HSB is all technology-assisted;
  - b. whose HSB is all offline;
  - c. with dual HSB (for example, technology-assisted *and* offline HSB).
3. To explore any association between TA-HSB and offline HSB.
4. To investigate professional involvement with, and responses to, TA-HSB.

We use the term 'technology-assisted harmful sexual behaviour' (TA-HSB) here to refer to:

*“One or more children engaging in sexual discussions or acts – using the internet and/or any image-creating/sharing or communication device – which is considered inappropriate and/or harmful given their age or stage of development. This behaviour falls on a continuum of severity from the use of pornography to online child sexual abuse.”*

## Methods

We identified 275 suitable cases for this research that had been open for 80+ days and were still active within the Turn the Page service as of 1st October 2015, or closed between January to October 2015. From these, we selected a random sample of 35 offline HSB only cases and 35 dual HSB cases. We searched for additional TA-HSB only cases by widening our search to cases open between June 2014 and May 2016; this led to a total of 21 TA-HSB only cases being included in the research. Our final sample therefore consisted of 91 males (two randomly selected females were screened out from this research as there were too few of them to allow for meaningful analysis). Data was extracted from their NSPCC case files using a pre-defined data extraction form and statistically analysed (where possible) to explore group similarities and differences.

This research provides the first known exploration of the full spectrum of TA-HSB displayed by children and young people. The sample used is larger than other studies looking at the characteristics of young males engaging with indecent images of children and it offers the first exploration of the backgrounds and characteristics of young males engaging in both dual HSB. It also offers some insight into professional response to TA-HSB, which has yet to be explored.

## Key findings:

### Prevalence and range of technology-assisted HSB (TA-HSB)

- Almost half (46 per cent) of the children and young people (male and female) being assessed for the Turn the Page service (between January–October 2015) displayed some form of TA-HSB, yet it was rare for this to occur in the absence of offline HSB (only 7 per cent). Referral routes into therapeutic HSB services may prioritise those displaying offline HSB, meaning that those with TA-HSB are underrepresented within these services.
- Boys and young males engaged in a range of TA-HSB, with 68 per cent of them engaging in more than one form. These behaviours directly victimised another person in most cases (for example, inciting another child/young person to create and share an indecent image of themselves). The possession, making and/or distribution of indecent images of children (including those

that had been self-generated through a ‘sext’) was the most common form of TA-HSB. Other behaviours included: ‘sexting’; the developmentally inappropriate use of pornography (for example, by someone under the age of 13, accessing extreme/illegal pornography and being preoccupied with pornography); sexual harassment and inciting sexual activity via electronic messaging; grooming; and exposing other children/young people to pornography.

- There were differences among those with dual HSB in the types of TA-HSB engaged in; almost half of this group were watching pornography in a developmentally inappropriate way only, while the remaining half engaged in other forms of TA-HSB (in some cases alongside the developmentally inappropriate use of pornography), which was often directed towards others.

### Characteristics of the young males with TA-HSB and dual HSB

- The young males with TA-HSB only appear to have come from families characterised by significantly higher levels of stability, less trauma and more positive parental relationships than those with dual HSB and offline HSB only. They were, on average, three years older at referral (15.8 years) and onset (13.7) of HSB and had fewer noted mental health difficulties, unresolved trauma, and problems with impulsivity, emotional regulation, and anger and aggression towards themselves and others.
- Young males with dual HSB share a number of similarities in their backgrounds and characteristics to those with offline HSB only, suggesting their HSB may have developed in similar ways. However, there were some notable differences, which suggest that those with dual HSB may have experienced greater difficulties in their upbringing.

### Association between the TA-HSB and offline HSB

- The developmentally inappropriate use of pornography appears to be more closely related to offline HSB than other forms of TA-HSB, and was identified as a trigger for offline HSB in more than half of the dual cases. In contrast, other forms of TA-HSB were more likely to follow on from offline HSB and occurred, on average, three years later.
- Among those with dual HSB, few similarities could be identified between their TA-HSB victims, offline victims, nor the characteristics of the victims in the indecent images of children.

## Professional involvement with, and responses to, TA-HSB

- Professional response to young males displaying TA-HSB appears to be more punitive than the response to those displaying offline HSB or dual HSB, in that there was more police and youth offending service involvement and a greater rate of exclusion from school. A more therapeutic approach was taken to those with offline and dual HSB, which may result from greater social care involvement prior to the HSB and recognition of higher levels of trauma and family disruption among these young males. It may also relate to the current focus of therapeutic services, which are largely targeted at offline HSB.
- There was a lack of knowledge and understanding about the different types of TA-HSB, the severity of these behaviours, and recognition of these behaviours among professionals.

## Implications of the research for assessment and service delivery

- An integrated approach to assessment appears necessary, exploring offline HSB and TA-HSB together as opposed to treating them as two distinct behaviours.
- Pornography use by children (under the age of 13) and/or a young person's preoccupation with pornography should be thoroughly assessed as it may predict and contribute to offline HSB. Early intervention may be required with these children/young people, yet an HSB service may not be the best provision for this. Professionals working in social care may be well placed to deliver such intervention. Similarly, schools could educate children and young people around the reality of pornography and help address any resulting negative behaviours.
- Focusing on predicting offline HSB upon the identification of TA-HSB (aside from pornography use) may be ineffective. Instead, practitioners may wish to focus on exploring past offline HSB when TA-HSB is identified and consider the potential for the child/young person's offline HSB to evolve and include TA-HSB with age.
- Interventions focusing specifically on the use of pornography and other forms of TA-HSB are needed; current interventions may not be suitable or easily adapted to address this behaviour. HSB service referral forms should also be adapted to include specific definition of, and reference to, TA-HSB, in order to focus attention on these behaviours.

- Training and professional development is needed to help practitioners identify TA-HSB, understand the legal implications, and respond appropriately. This should be accompanied by training in how to assess children and young people with this behaviour and develop case formulation to guide intervention.

Based on the current research findings and the wider research literature, the NSPCC is collaborating with AIM project to develop a training package for professionals working with children and young people who have engaged in TA-HSB.

## Limitations of the research

The limitations of this research should be borne in mind when reviewing the findings. The data was not originally collected for research purposes, creating difficulties with missing data and potential bias from the way it was recorded and interpreted. While the sample size was bigger than previous UK research, it was still relatively small and prevented some statistical analysis being carried out. The findings may not be relevant to girls or young males whose HSB remains undetected or does not meet the threshold for an HSB service; further research is needed to explore this.

# MAIN REPORT

## Background

For children and young people, spending time on the internet is now a major part of daily life, with 98 per cent of 12–15 year olds in the UK using the internet in 2015 (Ofcom, 2015). In a recent annual media monitoring report by Childwise (2016), 5–16 year olds were reported to spend an average three hours on the internet each day, rising to five hours a day when looking just at 15–16 year olds. The way in which children and young people access the internet has also changed; in 2015, 75 per cent of 5–15 year olds used a tablet to access the internet and 34 per cent of 12–15 year olds mostly used their mobile phones (Ofcom, 2015), meaning that children can be constantly connected to their online worlds. Much of this internet use is unsupervised, with 64 per cent of young people in the UK having online access in their bedroom (Mascheroni & Olafsson, 2014).

The internet now plays a major role in the young person’s developing self-identity, sexuality (O’Sullivan, 2014) and self-expression (Haddon et al, 2012). It provides them with a source of sex education material as well as a means of satisfying their sexual curiosity and helping them to form their sexual identity (Boies et al, 2004; O’Sullivan, 2014; Stonard et al, 2014) at a time when sexual development and curiosity is at its peak. The private and anonymous nature of the internet (Aebi et al, 2014) also allows young people to change the way in which they present themselves to others (Davidson & Gottschalk, 2011; Quayle & Taylor, 2001; Simpson, 2013). Indeed, 72 per cent of young people in a recent UK survey believed that “most people behave in a different way online to when they talk to people face to face” (Ofcom, 2015).

While the internet offers countless benefits, its darker side means that those with unhealthy and harmful interests are now more able to freely act upon these and communicate with other likeminded individuals. Sexual offending in particular has evolved rapidly online, meaning that it is now much easier to access and share indecent images of children, enact abusive and harmful sexual fantasies, and meet and groom potential victims online. In 2012, for example, over 8,000 transactions of indecent images of children were reported to CEOP for UK-based users, containing a total of 70,000 still and moving images (many that are duplicates) (CEOP, 2013). This latter figure is double that for the previous year and, worryingly, a fifth of these images appear to have been self-generated by the child/young person displayed in the image. Therefore, we use the term ‘indecent images of children’ instead of ‘child sexual abuse images’ to recognise that not all indecent images

of children will depict acts of sexual abuse and some may have been self-produced.

While adults are commonly assumed to be the perpetrators of online sexual abuse, research indicates that children and young people also engage in online sexual offending. The authors of this paper have carried out a review of the research literature exploring children and young people's online sexual offending (Belton & Hollis, 2016) and some of the key findings from this review are summarised below. For example, an estimated 3–15 per cent of offences relating to indecent images of children were found to be committed by young people (Carr, 2004; Finkelhor & Ormrod, 2010; Fortin & Roy, 2006), with between 1–17 per cent of 10–20 year olds self-reporting the viewing of online indecent images of children (Flander et al, 2009; Hegna et al, 2004; Seto et al, 2015). In the study by Hegna et al (2004), males (aged 18–20) reported watching 'child pornography' at a greater rate than females (17.3 per cent compared with 2.5 per cent, respectively). There is also evidence to suggest that between 4–32 per cent of children and young people aged 10–18 view other forms of illegal pornography, including bestiality and rape/sexual violence (see, for example, Flander et al, 2009; Sabina et al, 2008). Again, a higher percentage of young males were reported viewing this type of pornography than females. It is important to note, however, that many of these studies do not report on intention to view these illegal images and therefore exposure may be, in some cases, accidental.

A small number of studies exploring recorded crime rates also provide evidence that children and young people engage in other forms of online sexual offending (these studies do not provide information on the gender of these young people) that directly harm other children and young people. Wolak and Finkelhor (2013), for example, found that a small proportion of offenders arrested for sex crimes involving online sexual communication with minors in the USA in 2009 were under the age of 18 (8 per cent of those where the offender met the victim online and 13 per cent of those where the offender already knew the victim offline). Mitchell et al (2014) also report that 43 per cent of those who had been convicted of sexually soliciting young people online (making unwanted requests for young people to engage in sexual activities/sexual talk or to give personal sexual information) in the USA in 2010 were under the age of 18.

In Sweden, Shannon (2008) found that 13 per cent of 315 cases coming to the attention of the police for online sexual offences against a young person, which involved grooming, were perpetrated by someone under 18 years. Where the sexually abusive incidents involved online-only contact, 21 per cent of these offenders were under the age of 18. In a fifth of the cases where the offender met the victim online and then sexually abused the victim offline, the average



age gap between the offender and victim was two years, and 10 per cent of offenders were under 18.

This is in line with the findings from research carried out with adults, which suggests some offenders groom others online to satisfy their sexual fantasies and engage in cybersex, while others use the internet to locate and groom children and young people in order to sexually abuse them offline (Briggs et al, 2011; Whittle et al, 2015).

These studies highlight the engagement of children and young people in a number of different types of online sexual offences, yet very little is known about the full extent to which they participate in such behaviours. Offline, children are known to engage in a wide range of sexual behaviours that operate on a continuum from ‘normal’ through to inappropriate, problematic, abusive and violent sexual behaviour (Hackett, 2010). The range of behaviours from inappropriate through to violent are more widely referred to as ‘harmful sexual behaviour’ (HSB). In the NSPCC’s national harmful sexual behaviour framework, HSB is defined as:

*“Sexual behaviours expressed by children and young people under the age of 18 years old that are developmentally inappropriate, may be harmful towards self or others, or be abusive towards another child, young person or adult.”*  
(Hackett et al, 2016, p.12)

This includes “sexually explicit words and phrases, to full penetrative sex with other children or adults” (Rich, 2011). While the behaviours displayed within this spectrum may be harmful to others, not all of them would meet the legal thresholds of a ‘sexual offence’.

The merging of children and young people’s online and offline worlds and the range of activities children engage in online (for example, talking in chat rooms, using webcams, sharing images) means that this same continuum of HSB is likely to be relevant to their online sexual behaviours. As such, children and young people may engage in sexual behaviours online that are harmful to themselves and others, but may not always constitute a criminal offence and will not always therefore show up in official crime statistics. Some of these behaviours may also occur in a similar format offline using modern technology in a way that is different to our common understanding of HSB. An example of this is ‘sexting’.

The NSPCC’s definition of ‘sexting’ is:

*“When someone shares sexual, naked or semi-naked images or videos of themselves or others, or sends sexually explicit messages. They can be sent using mobiles, tablets, smartphones, laptops – any device that allows you to share media and messages.”*  
(NSPCC, 2016)

This behaviour can therefore be carried out online (for example, sharing a self-generated sexual image through Facebook) but can also be engaged in offline (for example, sending an image via text message). Regardless of the medium through which it is sent, the same behaviours are involved and the young person would still be legally accountable for making, possessing and/or distributing digital indecent images of children (Sentencing Guidelines Council, 2012). There is a growing sense that ‘sexting’ now forms a normal part of growing up, yet there is evidence to suggest that girls can feel pressured into ‘sexting’ (Klettke et al, 2014; Phippen et al, 2012; M. Wood et al, 2015) and research with young adults (average age 20.6 years) shows some are coerced into doing so (Drouin et al, 2015).

Wolak and Finkelhor (2011) also identified ‘aggravated’ forms of ‘sexting’ whereby criminal or abusive behaviour from another young person was involved, such as extortion or creating/sending an image against the other young person’s will. In some cases, ‘sexting’ may therefore constitute a form of sexual abuse/sexual victimisation and may be associated with other forms of online and offline sexual behaviours, such as pornography use (Van Ouytsel et al, 2014) and having unprotected sex or casual sex (Henderson, 2011; Yeung et al, 2014). The sending and receiving of a ‘sext’ has also been associated with intimate partner violence victimisation among young people (M. Wood et al, 2015) and being pressured by a partner to watch pornography (Stanley et al, 2016), suggesting an element of coercion associated with this behaviour. Sending and receiving sexual images and messages has also been associated with the perpetration of sexual coercion among boys (Stanley et al, 2016). Thus, there appears to be a level of overlap in the sexual behaviours children and young people display online, using modern technology, and offline, which may be harmful to themselves and others. However, research exploring ‘sexting’ as a form of harmful sexual behaviour is scarce.

To encompass the wide-range of harmful sexual behaviours that may occur online and when using other forms of modern technology, we propose using the term ‘technology-assisted harmful sexual behaviour’ (TA-HSB) instead of ‘online sexual offending’ or ‘online HSB’. This recognises the overlap in behaviours involving technology and the internet, such as watching pornography online and on television channels (for example, cable television channels like Babestation), and the creation and sharing of indecent images of children using internet sites, webcams and mobile phones.

The full range and extent of TA-HSB has not been explored in any of the research published to date and focus is often limited to young people’s use of indecent images of children and extreme pornography, excluding those under the age of 12.

Studies also tend to rely on officially recorded crime statistics, which will exclude children under the age of criminal responsibility (10-years-old in England and Wales) and will only include crimes that have resulted in a conviction. Therefore, further research is needed to develop our understanding of this behaviour.

In addition to this, there has been little attempt to explore whether the accessing of indecent images of children by other children and young people could ever be considered developmentally appropriate – albeit illegal – sexual behaviour. If a 13-year-old male seeks out sexual images of another 13-year-old, for example, this may indicate an age-appropriate sexual interest despite the accessing of these images being illegal. Additionally, young people have reported a number of benefits from ‘sexting’, such as feeling “sexy” and offering a safer alternative to sexual intercourse, thus viewing this behaviour positively (Stanley et al, 2016).

Further research is needed to understand the types of indecent images of children that other children and young people may be accessing, the characteristics of those in the images, and their motivations for accessing these images in order to explore this issue further. Further information is also needed to gain a better understanding of other technology-assisted sexual behaviours and the context in which this occurs.

# Characteristics of the children and young people who display TA-HSB

Following a systematic search strategy, a previous literature review of children and young people's online HSB by the authors of this paper (Belton & Hollis, 2016) identified four studies that explored the characteristics of young males (aged 12–20) who viewed indecent images of children online (Aebi et al, 2014; Moultrie, 2006; Seto et al, 2015; Stevens et al, 2013). One of these studies also looked at the characteristics of those who view other forms of illegal pornography in Sweden, such as that featuring animals, excrement and violence (Aebi et al, 2014). The findings from these four studies suggest that young males who view indecent images of children come from more stable backgrounds than young contact sexual offenders, have better levels of education and have fewer previous convictions. They may therefore be less likely to come to the attention of social care and other authorities and, as a result, their online HSB may be more likely to go undetected for longer. However, they appear to have more social difficulties and a greater sexual interest in children than young people displaying offline HSB. These findings are largely replicated in the research literature exploring the differences between the characteristics of adult online and offline sexual offenders. They therefore suggest that those who view indecent images of children may have different developmental backgrounds and characteristics than those who sexually abuse others offline.

While these four studies provide useful emerging information on the characteristics of young people who view indecent images of children, they have a number of limitations. The young people involved vary in age and the two UK studies relied on very small samples of just six and seven young males (Moultrie, 2006; Stevens et al, 2013). There are also definitional differences in the viewing of indecent images of children across the studies that included: the possession and/or distribution of indecent images of children (Aebi et al, 2014; Moultrie, 2006); the use of 'internet child pornography' (Stevens et al, 2013); and viewing adult–child sex (Seto et al, 2015). Additionally, some young people in Moultrie's (2006) study had committed known contact sexual offences alongside their indecent image offences and may also have done so in Seto et al's (2015) study. The comparison groups of those committing contact sexual offences also included those who had accessed indecent images of children in the study by Aebi et al (2014) and may also have done so in Stevens et al (2013) and Moultrie's (2006) studies. The comparisons made within and between

these studies may therefore be biased and the generalisability of their findings compromised.

Our literature review (Belton & Hollis, 2016) did not identify any research that explored the backgrounds and characteristics of children and young people displaying other forms of TA-HSB aside from the use of indecent images of children, such as online grooming. Nor was there any research that explored dual online and offline HSB by children and young people and the characteristics of those with these behaviours. Research with adults suggests that dual sexual offenders are similar to those with offline sexual offending only, yet may have a greater sexual interest in children along with greater empathy deficits and intimacy difficulties (Babchishin et al, 2014; Belton & Hollis, 2016). It is unclear, however, whether these findings also relate to children and young people. Our understanding of the backgrounds and characteristics of children and young people who engage in TA-HSB is therefore limited to those who view indecent images of children only and further research is needed.

# Association between online and offline sexual offending in children and young people

As yet, very little is known about the association between online and offline sexual offending among children and young people. Our recent review of the research in this area (Belton & Hollis, 2016) identified three studies that suggest there is a small amount of overlap between the viewing of indecent images of children and offline contact sexual offending. However, cross-over rates between the two types of HSB vary within studies.

Stevens et al (2013) found that 1 per cent of those with a contact sexual offence in their study (n=104) reoffended with an indecent image offence and Aebi et al (2014) found that 3.6 per cent of those with a contact sexual offence (n=168) had also been convicted of viewing indecent images of children.

Only one of 54 young males with an indecent image offence in Aebi et al's (2014) study reoffended with a contact sexual offence, while none of the six young males in Stevens et al's (2013) study did. Moultrie (2006) identified an overlap between the two behaviours in two out of seven young males. It should be noted, however, that these studies all focused on detected rates of sexual offending, which may underreport the true extent of the overlap between these two types of sexual behaviours.

The review also identified research that documented a stronger link between frequent pornography use and/or the viewing of extreme pornography and contact HSB in adolescents and young adults. For example, frequent male pornography users were three times more likely to have engaged in sexually coercive behaviour involving penetration compared with non-frequent users (Svedin et al, 2011), and were significantly more likely to gain sexual favours by coercion and report that they would have sex with younger adolescents (Hegna et al, 2004). Additionally, adolescents who intentionally viewed violent pornography over time had an almost six-fold increase in the odds of self-reporting sexually aggressive behaviour, and the levels of association were similar for boys and girls (Ybarra et al, 2011). More recently, Stanley et al (2016) noted an increased probability of sexual coercion among young males (aged 14–17 across five European countries) who self-reported regularly watching pornography, and found these males significantly more likely to hold negative gender attitudes. These are all self-report studies that may be more accurate reports of behaviours than the above studies, which rely on detected and officially recorded/convicted sexual offences. Nevertheless, it is

important to recognise that not all young people who watch extreme/frequent pornography reported acting in a sexually aggressive/harmful way in these studies.

The above studies suggest that there may be a small association between the viewing of indecent images of children online and contact sexual offending, and highlight an association between frequent pornography use and viewing violent pornography with offline sexual aggression. However, these studies have focused on the use of pornography/indecent images of children only and have not explored the association between offline HSB and other forms of TA-HSB. In addition, no studies were identified that have investigated the order in which TA-HSB and offline HSB occur, nor any that have looked at the ongoing interaction between the two types of behaviours.

Further research is therefore needed to help us understand how TA-HSB and offline HSB may develop and interact with each other, and also to gain an understanding as to the risk factors that may predict the onset of these behaviours.

# Rationale for the current research

The current research has been internally commissioned by the NSPCC to help contribute to the wider understanding of children and young people with TA-HSB and the different types of TA-HSB they engage in. This is following on from the findings of our previous review of the literature on children and young peoples' online HSB (Belton & Hollis, 2016), which highlighted very few prior research studies in this area and a number of limitations with the ones that had been carried out.

We aimed to explore the characteristics of a larger sample of children and young people displaying TA-HSB in the UK. In doing so, it will provide the first comprehensive exploration into the range of TA-HSB engaged in by children and young people, and look in more detail at the level of association between TA-HSB and offline HSB. It will also add to current research findings regarding the characteristics of young males displaying TA-HSB and will provide an initial exploration of the characteristics of those with dual offline and TA-HSB.

The sample used for the research was children and young people accessing the NSPCC's service for harmful sexual behaviour. This service, known as Turn the Page, is an assessment and treatment service for children and young people aged 5–18 years (see Appendix 1 for more details on the referral criteria and service offer). While all of the children and young people must have displayed a level of HSB deemed to be at least problematic in order for the referral to be accepted onto the service, not all of them will have been involved with the criminal justice system for this behaviour.

Together, the findings from our previous literature review and the current research will be used to help inform the development of a training package and practice guidance for professionals carrying out assessments of risk with children and young people displaying TA-HSB. This package is being developed through collaboration between the NSPCC and AIM project ([www.aimproject.org.uk](http://www.aimproject.org.uk)) and will address a current lack of guidance for practitioners around the different types of TA-HSB, the significance of this behaviour, and the implications of this behaviour for intervention and treatment.



# Methods

## Research objectives and hypotheses

This research had four main objectives:

1. To explore the prevalence and range of technology-assisted HSB (TA-HSB) displayed by the children and young people being assessed within the NSPCC's Turn the Page service for HSB.
2. To explore and compare the characteristics of children and young people:
  - a. whose HSB is all technology-assisted;
  - b. with dual technology-assisted and offline HSB;
  - c. whose HSB is all offline.
3. To explore any association between the TA-HSB and offline HSB among those with dual HSB.
4. To investigate professional involvement with, and response to, TA-HSB.

Based on the variety of HSB that children and young people are known to display offline, we hypothesised that a range of TA-HSB would be identified within the case files included in this research, reflecting the spectrum of HSB outlined by Hackett (2010). We also hypothesised that the backgrounds and characteristics of the children and young people known to have engaged in TA-HSB only would differ to those with offline HSB given the differences identified in previous research with young people and adults. Additionally, it was predicted that those with dual TA-HSB and offline HSB would be more similar to those with offline HSB only, but may represent a distinct group with more difficulties than either the TA-HSB or offline HSB only groups. Finally, we hypothesised that there would be a small amount of overlap between TA-HSB and offline HSB based on previous research with young people and adults. We did not hypothesise about the professional response to the TA-HSB as this has not yet been explored within the previous research with young people.

## Definition of TA-HSB

No existing definitions of online HSB were identified in our previous review of the research literature (Belton & Hollis, 2016) and we therefore developed our own definition of technology-assisted HSB (TA-HSB) to inform the current research and subsequent practice guidance. This was used to help us identify and classify behaviour as TA-HSB within this research. The definition is based loosely on a combination of the NSPCC's definition of online child sexual abuse outlined in the 2015 *How Safe are our Children?* report (Jutte et al, 2015) and the definition of harmful sexual behaviour given by Rich (2011).

Input was given to the development of this definition from a number of experts working in the field of HSB, and the final version is as follows:

*“TA-HSB refers to one or more children engaging in sexual discussions or acts – using the internet and/or any image-creating/sharing or communication device – which is considered inappropriate and/or harmful given their age or stage of development. This behaviour falls on a continuum of severity from the use of pornography to online child sexual abuse. Pornography use may be considered TA-HSB if it is likely to be damaging for the child/young person given their age and/or developmental, emotional and social needs, and/or if it depicts acts which are considered unacceptable according to the British Board of Film Classification’s (BBFC) classification of pornographic material. Online child sexual abuse takes different forms and can lead to, or be preceded by, contact abuse. This may involve the use of technology to manipulate, coerce or intimidate a child to engage in sexual activity that is abusive and/or degrading in nature. Such acts may include the online grooming of children for sexual purposes, including sexual acts online, and the commissioning, production, distribution or possession of indecent images or footage of children (including the digital manipulation of a non-sexual image of a child for sexual purposes).”*

Appendix 2 includes the BBFC's definition of unacceptable pornographic content (BBFC, 2014). We did not classify the use of video games, which are known to have a sexual element (for example, Grand Theft Auto) as TA-HSB, nor the watching of non-pornographic films rated 18, given that any sexual element within these is likely to be a secondary plot line. When deciding whether the use of pornography could be developmentally harmful, we were guided by the Brook sexual behaviours traffic light tool (<https://www.brook.org.uk/our-work/the-sexual-behaviours-traffic-light-tool>). This states that the sourcing or viewing of pornography by a child under the age of 13 would be an amber or red behaviour (potentially/ outside of safe and healthy behaviour), as would the accessing of exploitative or violent pornography by a young person aged 13–17 and a preoccupation with sex that interferes with daily function.

Brook also classifies the distribution of naked or sexually provocative images of the self or others (for example, 'sexting') as outside of safe and healthy sexual behaviours. These behaviours were therefore classified as TA-HSB in the current research.

## Process

This research was given full approval by the NSPCC's Research and Ethics Committee.

### Identifying suitable cases for the research

For every child/young person who accesses the NSPCC's Turn the Page service, an internal case record is created that houses referral information, practitioner notes and a copy of the AIM risk assessment report (see [www.aimproject.org.uk](http://www.aimproject.org.uk)). The risk assessment report was vital for this research as the areas covered in it should provide a thorough exploration of the young person's development and HSB. An initial scoping of case files revealed that a case needed to have been open for at least 80 days for an assessment to have been carried out and for the final assessment report to be written. We therefore limited our search for cases to only those that had been open to the service for at least 80 days.

As the service has been operating since 2011, we also limited our search to only include cases that were still active as of the 1st October 2015 or closed between January–October 2015 to make the research more manageable. This led to the identification of 340 cases for inclusion in the research. The NSPCC children's service practitioners assigned to these cases (or their managers if the practitioners were no longer in post) were asked to indicate whether there was any TA-HSB and/or any offline HSB displayed by each young person. They were given the above definition of TA-HSB to refer to when completing this exercise.

The case identification and selection process is outlined in the flowchart in Appendix 3. As can be seen, practitioners' initial classification of cases was not always accurate and the authors therefore double-checked the classification of each one. This led to the re-classification of 61 cases. Most noticeable among these were 50 cases that practitioners had classified as 'offline HSB only' that the authors identified as also involving some form of TA-HSB (this equates to one quarter of the cases that were initially classified by practitioners as 'offline HSB only'). The possible reasons for this and the implications are considered in the discussion of this paper.

At the end of the case identification process, a total of 275 suitable research cases were identified; 18 TA-HSB only, 148 offline HSB only and 109 dual HSB. From these, we selected a random sample (using the SPSS statistics software) of 35 offline HSB only cases and 35 dual HSB cases for inclusion in the research. In order to increase the sample size within the TA-HSB only group, we widened our search of cases to those that had been open for 80+ days between June 2014 and May 2016. This led to the identification of an additional 129 cases, three of which involved TA-HSB only and were included in the research.

Our final research sample therefore consisted of 91 cases, grouped as follows:

- **TA-HSB** = all 21 TA-HSB cases open to the Turn the Page service for 80+ days between June 2014 and May 2016.
- **Offline only HSB** = 35 randomly selected offline HSB only cases open for 80+ days between January–October 2015.
- **Dual HSB** = 35 randomly selected dual HSB cases open for 80+ days between January– October 2015.

No females were identified who had accessed the Turn the Page service for TA-HSB only. The random selection of children and young people with dual HSB and offline HSB only initially included one female in each group. Previous research, as highlighted in the introduction to this paper, has identified gender differences in the accessing of indecent images of children and viewing pornography. As we did not identify enough females for our research sample to carry out any meaningful analysis based on gender, we therefore replaced these two females with two randomly selected males to remove any potential gender bias in our findings. Our final sample therefore consisted of only young males.

### Extracting data from Turn the Page case files

A data extraction matrix was developed to provide a standard structure for the extraction of research data from each Turn the Page case file (see Appendix 4). This matrix closely matched the areas covered by the standard AIM2 assessment structure used within this HSB service (see [www.aimproject.org.uk](http://www.aimproject.org.uk)), separated into four domains: developmental, family, environmental, and harmful sexual and non-sexual behaviours. Additional areas for data extraction were added based on the findings from our earlier literature review (Belton & Hollis, 2016) regarding the characteristics of young people and adults who display online HSB/sexual offending. In total, information on up to 127 variables could be recorded from each case file depending on the extent of missing information.

The data extraction matrix was piloted on three research cases (two TA-HSB only cases and one dual HSB case) by the authors of this research in order to test its usability and reliability. Agreement between the authors on the data extracted from these cases was 79 per cent and 77 per cent for the TA-HSB only cases and 72 per cent for the dual HSB case. Agreement rose to 100 per cent following discussion. An NSPCC practitioner working on the Turn the Page service also piloted the form on the same dual HSB case, and her agreement with the two authors on the extracted data was 66 per cent. A number of changes were made to the data extraction matrix regarding the wording of some of the questions and the way the data was recorded in order to reduce ambiguity.

Additional guidance on data extraction was also developed to help improve consistency. A fourth, dual HSB case was then piloted by both authors to test the changes made to the data extraction form. While the revised wording of the questions and new guidelines for completion were felt to have removed ambiguity, the level of agreement on the information extracted from this case was 61 per cent. A full AIM2 assessment was not carried out for this case and the information therefore had to be gathered from other sources of assessment information, which was harder to find within the case file and is likely to have increased the level of disagreement between the authors. However, this highlights the difficulties with extracting data from 'real world' information that has not been collected for research purposes and where there is variability in how the information is gathered and recorded within case files.

Based on the piloting exercise, it was decided that just one of the authors (VH) would extract the data from all of the research cases to maintain a level of consistency in data extraction. The four pilot cases were included in the final research sample using the information extracted and agreed upon following discussion.

## Data analysis

The data extracted from each case was entered into the SPSS statistics software for analysis. Where there was missing data for a variable in more than 50 per cent of cases, the variable was excluded from analysis to improve the reliability of the information reported. Frequency analysis was carried out on all remaining variables to explore within and between group differences, comparing the TA-HSB only, dual HSB and offline HSB only groups. Where possible, statistical comparisons were also made using chi-square and ANOVA in order to test whether any observed differences were meaningful (for example, statistically significant) instead of 'chance' occurrences.

For the two ANOVAs that were carried out to compare the age of the children and young people across the three groups, Welch's F is reported as the assumed homogeneity of variance between groups was violated. For chi-square analysis to be carried out, two main assumptions needed to have been met; that no more than 20 per cent of the expected cell counts within the chi-square analysis were less than five and that all individual expected counts were one or greater. For some variables, our sample size was too small (due to missing data or sub-group comparisons) for us to meet these assumptions.

We therefore used Fisher's Exact (for 2x2 contingency tables) where possible, but were unable to statistically compare some of the frequencies<sup>1</sup>. Each frequency table outlined in this report notes the percentage of missing data for each variable and the results of any statistical comparisons. For each test, statistical analysis was based on children and young people with complete data and those with missing data were excluded from analysis.

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1 Fisher's Exact can only be applied to 2 x 2 contingency tables. As much of our analysis was based on 2 x 3 contingency tables (presence of variable [yes/no] x each of the 3 HSB groups), when expected cell counts dropped below 5, we were unable to statistically compare frequencies.

# Results and discussion

The results chapter is split into four sections, addressing each of the research objectives in turn, and draws upon previous research findings where relevant.

## Section 1: Prevalence and types of TA-HSB displayed by the children and young people accessing the Turn the Page service

### Prevalence of TA-HSB

TA-HSB was displayed by 46 per cent of the children and young people (male and female) accessing the Turn the Page service between January and October 2015 (127 out of 275 cases); the majority of whom also displayed offline HSB (40 per cent of the overall sample). It was rare for TA-HSB to be the only form of HSB, with seven per cent of children/young people accessing the service for this behaviour alone (18 out of 275 cases). This indicates a much greater overlap between these two types of behaviours than has previously been noted in relation to indecent images of children and contact sexual offending. Aebi et al (2014), for example, found that only 3.6 per cent of the 168 young males in their sample with a contact sexual offence also had a prior or current conviction for the possession or distribution of illegal pornography. It is likely that the higher level of overlap in the current research relates to the wider range of TA-HSB included, not all of which will have had criminal justice involvement.

### Types of TA-HSB

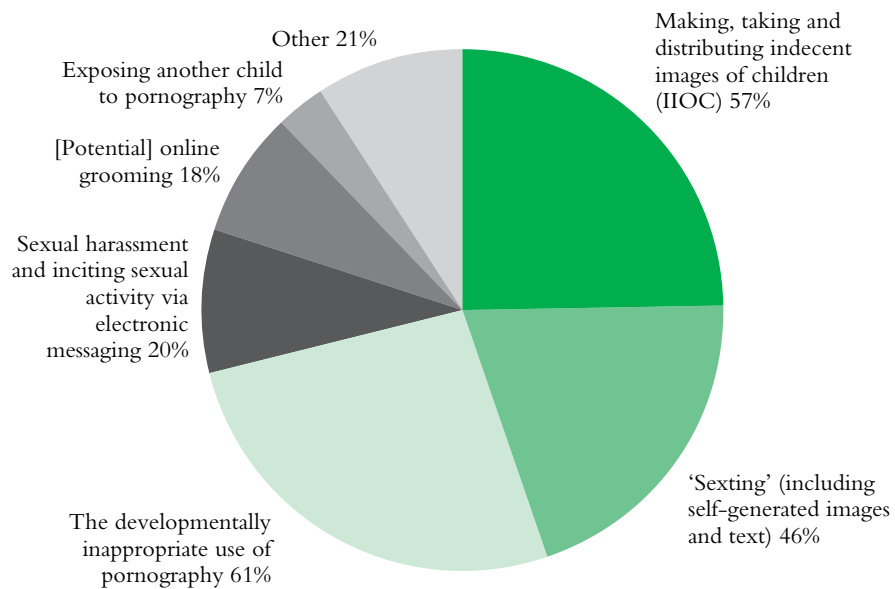
The young males included in this research displayed a range of technology-assisted harmful sexual behaviours. Some of these will have been damaging to the young person themselves and/or to other children and young people, thus showing how Hackett's (2010) continuum of harmful sexual behaviour is relevant for TA-HSB as well as offline HSB.

The different types of TA-HSB identified are outlined visually in Figure 1 and a full description and the prevalence of these behaviours is given in Appendix 5. Note that the percentages in Figure 1 do not total 100 per cent as the majority of young males (68 per cent) displayed more than one type of TA-HSB and they often overlapped. 'Sexting', for example, may lead to the creation and handling of indecent images of children; grooming may be involved in the inciting of a 'sext' (indecent image of a child) from another child/young person or in the online sexual harassment of another person; a child

may intentionally seek out pornography and expose another child to it.

The developmentally inappropriate use of pornography was the most common type of TA-HSB engaged in – displayed by 61 per cent of young males with some form of TA-HSB – followed by the making, taking and distributing of indecent images of children (57 per cent; including those that had been self-generated through a ‘sext’) and ‘sexting’ (46 per cent). These behaviours were prevalent among both the TA-HSB only group and the dual HSB group.

Figure 1: The prevalence and types of TA-HSB among this sample of young males



Closer investigation of the types of TA-HSB displayed by the dual HSB group, however, revealed two dual HSB sub-groups. For 16 of the young males in the dual HSB group (46 per cent), the sole form of TA-HSB they displayed alongside their offline HSB was the developmentally inappropriate use of pornography.

This was so for any young male intentionally watching pornography under the age of 13, who had become obsessed/preoccupied with pornography, or who was watching extreme/illegal pornography, including bestiality, fetishism and violence (indecent images of children have been classified separately in this research). Their TA-HSB was therefore harmful to themselves but did not, in itself, directly harm another person. For the remaining 19 young males in the dual HSB group (54 per cent), their TA-HSB may have included the developmentally inappropriate use of pornography but also involved at least one of the other behaviours outlined in Appendix 5 that are likely to have been directly harmful to others. We make a distinction between these two sub-groups of young males with dual HSB throughout the remainder of this paper. The comparisons made



below between those with TA-HSB only and those with dual HSB are done for the sub-group of young males whose TA-HSB involved more than the developmentally inappropriate use of pornography in order to make a more valid comparison.

### Comparison of the types of TA-HSB displayed by the TA-HSB only group and the dual HSB sub-group who engaged in various forms of TA-HSB

Comparisons were made between the types of TA-HSB displayed by those with TA-HSB only (n=21) and the dual HSB sub-group of the 19 young males with both offline and TA-HSB (see Appendix 5). Comparisons were not made with those with dual HSB whose 'only' TA-HSB was the developmentally inappropriate use of pornography. These comparisons revealed many similarities in their behaviours. The majority of young males in both groups displayed more than one form of TA-HSB (81 per cent of those with TA-HSB only and 90 per cent of those with dual HSB). However, significantly more of the TA-HSB only group distributed indecent images of children (67 per cent) than the dual HSB sub-group (26 per cent). Those with TA-HSB only also appeared to have accessed more extreme indecent images of children (categories A and B; see Appendix 7 and the Sentencing Guidelines Council, 2003 for more detail) and possessed and forwarded more youth-produced sexual imagery than the dual HSB sub-group, although these differences did not reach significance. In contrast, more of the dual HSB sub-group engaged in potential grooming behaviours and used pornography in a developmentally inappropriate way compared with the TA-HSB only group, although these differences did not reach significance.

### Comparison of the victims of the TA-HSB by those in the TA-HSB only group and the dual HSB sub-group who engaged in various forms of TA-HSB

As can be seen in Appendix 6, the majority of young males in the TA-HSB only group (n=21) and the dual HSB sub-group (n=19) directly victimised another person through their TA-HSB (71 per cent and 72 per cent, respectively).

Of those with a direct victim, just under half of those in the TA-HSB only group had more than one direct victim (47 per cent) compared with just over a third of those in the dual HSB sub-group (38 per cent; this difference was not statistically significant). The gender of the victim(s) was largely the same in both groups and in the majority of cases (67 per cent and 62 per cent, respectively) the victims of the TA-HSB were girls only.

However, there appear to be some differences between the two groups in their relationship to their victim(s) and the age of their victim(s). Those with TA-HSB only mainly victimised someone they knew outside of their family (80 per cent), and while 27 per cent of their victims were of various ages, 40 per cent victimised their peers. For those with both offline and TA-HSB, their victim was less frequently someone they knew outside of their family (62 per cent, although they still formed the largest group of victims), and while there was no prevailing pattern in the age of their victims, 39 per cent were younger than them. Due to the small sample sizes involved, no statistical comparisons of victim characteristics could be carried out.

### Use of indecent images of children

The young males in the TA-HSB only group (n=21) and dual HSB sub-group (of the 19 young males with other forms of TA-HSB that was not solely the developmentally inappropriate use of pornography) accessed indecent images of children (including images created as a 'sext') in a number of ways. There was variety in the types of images involved and the extent to which they were distributed or traded with others (see Appendix 7).

Around half of the young males in the TA-HSB only group (44 per cent) and dual HSB sub-group (57 per cent) actively sought out indecent images of children, highlighting how some intentionally access and collect these images for their own use and to trade with others. Indeed, the number of images held by these young males ranged from one to 'hundreds' and a third of all of those with TA-HSB had distributed indecent images of children, with 9 per cent trading indecent images of themselves for indecent images of others. This figure is similar to that reported by Aebi et al (2014) who found that 30 per cent of the 54 young people accessing their HSB service who had been convicted of possessing indecent images of children had provided others with access to the images. It was not possible to explore, however, whether the actual process of 'cataloguing and collecting indecent images of children' was as important as viewing them for the young males in the current sample, as has been noted with some adult offenders (Beech et al, 2008), as this level of detail was not recorded across all case files.

The young males within this sample also appear to have made, sent and incited indecent images of children through behaviours that could be defined as 'sexting'. Indeed, the self-production of indecent images of children was the most common way indecent images of children were accessed (61 per cent and 71 per cent, respectively) and many young males had been sent images by someone else (although this was less prevalent among those with dual HSB [29 per cent] compared with those with TA-HSB only [56 per cent; this difference was not statistically significant]).

For some young people, 'sexting' may therefore be a mechanism through which the child/young person's sexual urges, thoughts and feelings are expressed in a way that may be harmful to themselves and/or others. This is in line with emerging research findings that have documented an association between 'sexting' and sexually coercive behaviour (Stanley et al, 2016). Additionally, 19 per cent of the current sample was in possession of a 'sext' from another person, which, in most cases, they had incited. This supports the findings from other research that suggests that many young girls send a 'sext' because they have been asked to (59 per cent of the 37 young females who shared a sexual image of themselves did so because they were asked to; Martellozzo et al, 2016) and may have felt forced or pressured into doing so (Hamilton-Giachritsis et al, 2016; Ringrose et al, 2013). It also suggests that, among this sample of young males who, on the whole, have engaged in other forms of HSB, 'sexting' may not represent an 'innocent' teenage behaviour.

Finally, around a quarter (24 per cent) of those in the TA-HSB only group were involved with indecent images of children as a result of their own online grooming and sexual abuse (it was not possible to explore this in the dual HSB sub-group due to missing data). Indeed, a greater proportion of these young people had been sent an indecent image of a child by someone else (56 per cent) compared with the dual HSB sub-group (29 per cent), although the difference was not significant. This has not been explicitly explored as an associated factor in the use of indecent images of children in previous research with young males, yet the study by Moultrie (2006) noted how a number of the young males in their study had spoken about sex with adult males in chatrooms and received indecent images of children from them. In some cases, this appears to be how they began engaging with indecent images of children.

There was much variation in the types of indecent images of children viewed, which reflects the varied ways in which the young males in the current sample accessed them and the likely motivations behind this. No clear patterns were identified across or within the two groups of young males (those with TA-HSB only compared with those with dual HSB, as can be seen in Appendix 7) regarding the characteristics of the victims in the images.

The majority of young males accessed category C images (erotic posing that does not involve sexual activity), which is likely related to the inclusion and prevalence of 'sexting' in this research. In some cases, the behaviour of these young males could be considered age appropriate, albeit illegal, such as the seeking out of sexual images involving similar aged peers. However, a third of those in the TA-HSB only group accessed the most serious types of indecent images of children, which involved penetration or other forms of

sexual activity with children (categories A and B), and almost a third accessed images of younger children.

This may be indicative of a sexual curiosity/interest in younger children and/or may be associated with their own online grooming and sexual abuse. This suggests that while some young males may access indecent images of children for 'developmentally appropriate' reasons, others are viewing images of younger children and the most extreme types of images depicting serious sexual abuse. However, it was not possible to explore the young males' motivations for accessing indecent images of children as this information was often missing from case files and assessment reports.

### Online grooming

Ten cases (18 per cent of all of the young males with TA-HSB) were identified in which it was possible that grooming behaviours had occurred in order to obtain a sexual image from another child/young person or to engage them in online sexual activity. It was often difficult to determine whether grooming had taken place, however, due to a lack of detail in the service user case files regarding the motivation for any prior electronic contact between the young male and their victim and the level of manipulation or power imbalance present. The complexities of this are increased given that those who are engaging in this behaviour are under the age of 18 themselves and, therefore, likely to be closer in age to their victims than adult offenders. This can make it difficult to differentiate grooming from 'normal' peer-to-peer online contact, some of which may have a healthy sexual element to it.

Of interest is that none of the young males in this sample were noted as having attempted to meet up with their online victim of [potential] grooming. This is in spite of more of those with dual HSB engaging in these behaviours (32 per cent of dual HSB cases where the TA-HSB involved more than developmentally inappropriate pornography use) than those with TA-HSB only (19 per cent). Comparably, the study by Shannon (2008) found that 21 per cent of grooming offences involving online-only contact were by people under the age of 18, while 10 per cent of offenders who met the victim online and then sexually abused them offline were under 18.

## Section 1: summary of key findings

- The prevalence of TA-HSB identified among the children and young people accessing the NSPCC's Turn the Page service was high – present in almost half of the cases – and it was rare that this behaviour occurred in the absence of offline HSB.
- The young males included in this research displayed a range of TA-HSB spanning the developmentally inappropriate use of pornography to the online sexual abuse of others. They commonly engaged in more than one form of TA-HSB and this tended to directly victimise another person.
- Two sub-groups of young males with dual HSB were identified: those whose TA-HSB *only* involved the developmentally inappropriate use of pornography; and those who engaged in other forms of TA-HSB that tended to be aimed at another person.

## Section 2: Developmental backgrounds and characteristics of the three groups of young males

### Similarities and differences in the backgrounds and characteristics of young males with and/or without TA-HSB

The backgrounds and characteristics of the young males in the TA-HSB only group, dual HSB group and the offline HSB only group were explored and compared to look for any similarities and differences. A summary of the similarities and differences identified is given in Table 1, while Appendix 8 provides the data tables for all of the comparisons including the levels of missing data for each variable and the results of any statistical analysis. The below sections summarise these findings, comparing the TA-HSB group with the dual HSB and offline HSB only groups. Some comparisons are also made with the dual HSB sub-groups where relevant. At the end of this section, a summary of the characteristics of the dual HSB group is given to outline the notable differences between them and the offline HSB group, and to highlight any dual HSB sub-group differences.

#### Demographic characteristics

More than 95 per cent of the young males within each of the three groups were White British/ White Other, reflecting the predominant ethnicity of the children and young people referred to this service. Fewer of those with TA-HSB had been diagnosed as having a learning disability or difficulty than the young males with dual HSB or offline HSB only (5 per cent compared with 17 per cent and 26 per cent, respectively) and significantly more of them could be described as intelligent or a high achiever (57 per cent compared with 23 per cent and 14 per cent, respectively).

Table 1: Summary of the differences between the young males with TA-HSB compared with offline HSB only and a summary of the characteristics of those with dual HSB

<b>Characteristic</b>	<b>TA-HSB group (n=21) compared with offline only group (n=35)</b>	<b>Dual HSB group (n=35)</b>
<b>Demographics</b>	Majority were White in both groups. TA-HSB group less likely to have a learning difficulty and more likely to be noted as intelligent or a high achiever.	Most similar to those with offline HSB.
<b>Onset and continuation of HSB</b>	Those with TA-HSB were older at the onset of their HSB (average 13.7 years compared with 10.3 years) and referral to this HSB service (15.8 years compared with 12.7 years).	Most similar to those with offline HSB but more continued offline HSB following detection. Greater escalation in their HSB compared with the TA-HSB group and slightly more continued TA-HSB following detection.
<b>Stability, maltreatment and adversity</b>	More stable and less traumatic upbringings characterised by less family dysfunction, abuse and neglect, and social care involvement. Similar rates of bullying and general adversity yet greater rates of online sexual abuse and online grooming.	Most similar to those with offline HSB, yet highest rates of social care involvement, neglect and sexual abuse, and exposure to sexual material and poor sexual boundaries at an early age.
<b>Developmental characteristics</b>	Fewer mental health difficulties, less aggression and anger towards themselves and others, lower involvement in general anti-social behaviour/offending, less impulsivity, and greater ability to regulate their emotions.	Most similar to those with offline HSB. Greater unresolved trauma than the TA-HSB group and lower noted levels of pornography use.
<b>Parental characteristics and family relationships</b>	More likely to have a positive relationship with parents and parents who have a positive attitude towards them. Parents more likely to display a healthy response to the identification of the HSB and fewer of them noted as having their own difficulties.	Most similar to those with offline HSB but less likely positive relationship with parents/caregivers and greater parental difficulties.
<b>Friendships and social skills</b>	Few differences across the groups in friendships and communication skills but less of those with TA-HSB only were socially isolated.	Most similar to those with offline HSB.
<b>Education</b>	More likely described as performing well in school but more often suspended from school due to their HSB, and fewer were in education at the time of assessment.	Most similar to those with offline HSB.
<b>Cognitive distortions and cognitions relating to the HSB</b>	More with cognitive distortions that minimised or supported their HSB.	Most similar to those with offline HSB.

### Onset and continuation of HSB

The young males in the TA-HSB group were significantly older when they started engaging in HSB (average 13.7 years at onset, range 11–17 years) compared with those with offline HSB only (average 10.3 years, range 4–16 years) and those with dual HSB (average 9.4 years, range 4–15 years). They were also, on average, three years older at referral to the Turn the Page service (15.8 years, range 12–17 years) than those in the dual HSB (12.9 years, range 7–17 years) and offline HSB only (12.7 years, range 6–17 years) groups. Planned comparisons revealed no significant differences between the dual HSB group and the offline HSB only group on the age of onset of HSB and age of referral.

Escalation in the young male's HSB could be identified among 38 per cent of those with TA-HSB only; a smaller proportion than those in the dual HSB group whose HSB escalated over time (60 per cent).

This could not be statistically compared and it was not possible to explore escalation among those with offline HSB only due to missing data. A smaller proportion of those with TA-HSB only continued with their TA-HSB following detection (33 per cent) than the dual HSB group (43 per cent), although this difference was not statistically significant. The dual HSB group were also significantly more likely to continue with their offline HSB upon discovery (66 per cent) than the offline HSB only group (48 per cent).

### Levels of stability, maltreatment and adversity within the young males' upbringing

The young males in the TA-HSB only group appear to have experienced more stable and less traumatic upbringings than those in the dual HSB and offline HSB only groups. They were significantly more likely to be living with their biological parents, and significantly less likely to have lived elsewhere or in various different placements, or to have experienced parental divorce or separation. They were also significantly less likely to have spent their early years or most of their lives in highly dysfunctional families or to come from families who had had social care involvement prior to their HSB. This is reflected in their significantly lower levels of having experienced physical, emotional or sexual abuse (offline), neglect and domestic violence. However, the TA-HSB only group experienced markedly more online sexual abuse and online sexual grooming than the other two groups, although statistical analysis could not be carried out. A third of the young males in each group had been bullied by others.

Looking at sources of trauma aside from child maltreatment and bullying, almost all of the young males across the three groups had experienced some other form of adversity in their lives (for example, the death of a significant family member or parental divorce/separation) with no significant differences between the groups.



### Developmental characteristics

Significantly fewer of the young males in the TA-HSB group appeared to have mental health difficulties than in the other two groups and unresolved trauma than the dual HSB group (we were unable to explore unresolved trauma in the offline HSB only group due to missing data). This is likely to be related to their more stable and less traumatic upbringings. As a group, they appear to be better able to regulate their emotions and are less impulsive and less aggressive towards themselves and others. Significantly fewer of these young males have also been involved in wider offending/ anti-social behaviours (not all of which will have been known to the police).

We were unable to establish the sexual preference of the young males included in this research due to missing data. However, it was noted that around a third of those in the TA-HSB only group appear to have a sexual interest in children, compared with 14 per cent for the total dual HSB group (21 per cent of those with dual HSB whose TA-HSB involved more than developmentally inappropriate pornography use were noted as having a sexual interest in children). There was too much missing information for those with offline only HSB to explore sexual interest in children within this group. Roughly three quarters of the TA-HSB only group had ever watched pornography, with around a third noted to be obsessed/preoccupied with watching it. This is higher than the 58 per cent of the sub-group of those with dual offline HSB and TA-HSB (by definition, 100 per cent of those with offline HSB who also used pornography in a developmentally inappropriate way had used pornography and these young males increase the proportion of the total dual HSB group's use of pornography to 71 per cent), although this figure may not be accurate as it depended on whether the practitioner asked about and noted the use of pornography in the case file. Indeed, there was too much missing information for this to be explored in the case files of the young males in the offline HSB only group.

### Parental characteristics and family relationships

The young males in the TA-HSB only group were significantly more likely to be identified as having a positive attachment and relationship with their parents/main caregivers than the dual HSB and offline HSB only groups. Their parents/main caregivers were also significantly more likely to be noted as having a positive attitude towards them. Fewer of the parents/carers of these young males were said to have their own difficulties (for example, mental health difficulties, substance misuse, domestic violence, childhood abuse) than the dual HSB and offline HSB groups and more protective factors (like wider family support) could be identified prior to their HSB. However, differences on these latter two variables could not be statistically tested.



Upon identification of their son's HSB, significantly more of the parents of those with TA-HSB only displayed a healthy response (for example, dealt with the issue quickly, referred the child/young person for help, implemented appropriate supervision/restrictions) than those with dual HSB or offline HSB only.

### Friendships and social skills

The majority of young males in all groups were noted as having at least some friends and over half of those in all three groups were noted as having good communication skills. Contrary to previous research findings, however, significantly fewer of those in the TA-HSB group were said to be socially isolated than in the other two groups. This may relate to the types and range of TA-HSB explored in the current research, as the two previous studies in this area (Moultrie, 2006; Stevens et al, 2013) relied upon a very small sample of young people who had been arrested and/or convicted of indecent image offences. These activities are therefore more extreme than some of the TA-HSB included in the current research, such as accessing pornography in a developmentally inappropriate way, and may be more likely to be a solitary online activity. In contrast, some of the TA-HSB we explored here may have a more social, offline element to it, such as watching pornography in a group. For others, they may receive kudos from their peers from forwarding a 'sext' sent by another person. Indeed, Ringrose et al (2013), note how it can be seen as a positive by peers if a boy requests, and is able to gain, a self-produced sexual image from another young person.

### Education

More of the young males with TA-HSB only were excluded or suspended from school because of their HSB (33 per cent) than the dual (6 per cent) or offline (11 per cent) HSB groups, and fewer of them were in education at the time of the assessment (not statistically analysed). No significant differences were noted in overall rates of exclusion or suspension from school, however, and it was not possible to explore whether these young males were in school before or during their HSB in the current data set. While significantly more of the TA-HSB only group could be defined as performing well in school, just under half of the dual HSB group and over half of the offline HSB only group were performing well or quite well.

### Cognitive distortions and cognitions relating to the HSB

More of the young males in the TA-HSB only group displayed cognitive distortions or beliefs that minimised or supported their HSB (52 per cent compared with 37 per cent; not statistically analysed) compared to the dual HSB group. There were no significant differences in the proportion who blamed their victims. These factors could not be explored in the offline HSB only group due to missing data.

There appear to be few differences between the TA-HSB only group and the dual HSB sub-groups in how much they denied or accepted responsibility for their TA-HSB. This was the same when comparing the offline HSB of the dual group and offline HSB group. The attitudes of the young males towards their victims were very mixed within the groups, as can be seen in Appendix 8. There was too much missing data to be able to explore the attitude of the young males in the dual HSB sub-group towards their TA-HSB victim(s) and those in the offline HSB group's attitude towards their offline victim(s).

### Notable differences in the characteristics of the dual HSB group and sub-groups

The young males with dual HSB were found to be most similar in their backgrounds and characteristics to those with offline HSB compared with those with TA-HSB only. However, some differences were identified between those with dual HSB and those with offline HSB only, which suggest that they may have experienced greater difficulties in their upbringing than those with offline HSB only and TA-HSB only. Notably, 100 per cent of the young males in the dual HSB group were known to social care prior to their HSB and this group had the highest levels of neglect (63 per cent) and sexual abuse offline (54 per cent). Additionally, two thirds of these young males were noted to have been exposed to sexualised behaviours or materials at a young age and almost half came from families with questionable or poor sexual boundaries (there was not enough information on these two variables in the case files of the TA-HSB only or offline HSB only groups to be able to report on this).

The young males in the dual HSB group were the least likely to have a positive attachment to their parents/caregivers and to have parents/caregivers who had a positive attitude towards them than the other two groups. The vast majority of their parents also had their own difficulties. Finally, more of the young males in the dual HSB group were noted to have drunk alcohol than the other two groups (20 per cent compared with 5 per cent of the TA-HSB only group and 6 per cent of the offline HSB only group; no statistical analysis could be carried out).

While the dual HSB sub-groups were similar on most variables relating to their developmental backgrounds and characteristics, there were some observed differences between the two, which likely relates to the way in which they engage in TA-HSB. However, none of these differences could be statistically tested due to sample size. One of the main notable differences was that more of those with TA-HSB that involved more than developmentally inappropriate pornography use (n=19) had experienced emotional abuse (42 per cent) than those whose TA-HSB involved the developmentally inappropriate use of pornography *only* (n=16; 19 per cent of this group).

More of these young males appeared to have difficulties regulating their emotions than the sub-group of those with offline HSB who used pornography in a developmentally inappropriate way (84 per cent compared with 69 per cent, respectively), and more were overly angry or aggressive towards themselves (32 per cent compared with 19 per cent, respectively) and others (89 per cent compared with 69 per cent, respectively). In addition, fewer young males with dual HSB where their TA-HSB involved more than developmentally inappropriate pornography use were in school at the time of assessment (79 per cent) compared with the sub-group of those who used pornography in a developmentally inappropriate way *only* (100 per cent) and more were noted as performing poorly in school (42 per cent compared with 25 per cent). These difficulties may have contributed to them directly victimising another person using technology as opposed to solely viewing pornography in a developmentally inappropriate way.

In contrast, the vast majority (81 per cent) of those in the dual HSB sub-group who used pornography in a developmentally inappropriate way had been exposed to sexualised behaviour or materials at a young age, while around half (53 per cent) of those with other forms of TA-HSB had. This may be a casual factor in their developmentally inappropriate use of pornography.

## **Section 2: summary of key findings**

- The young males with TA-HSB only appear to have come from families characterised by significantly higher levels of stability, less trauma and more positive parental relationships than those with dual HSB and offline HSB only. They were also older when they began engaging in HSB and when they were referred to the Turn the Page service.
- Young males with dual HSB share a number of similarities in their backgrounds and characteristics to those with offline HSB only, suggesting their HSB may have developed in similar ways. However, there were some notable differences between the dual HSB group and the offline HSB group, which suggest that those with dual HSB may have experienced greater difficulties in their upbringing.
- There were few differences between the dual HSB sub-groups based on their backgrounds and characteristics.

### Section 3: Association between TA-HSB and offline HSB among young males with dual HSB

In order to understand more about the association and interaction between TA-HSB and offline HSB among the young males in our sample, we explored the age of onset for both behaviours and any known association between incidents of TA-HSB and offline HSB. This was done separately for the dual HSB sub-groups given the differences in their TA-HSB. We then looked at the victims of both types of behaviour for the sub-group of those with various forms of TA-HSB to explore any similarities in the two, which may suggest a general victim preference and overlap between the behaviours. Following on from previous research in this area that has established a correlation between pornography use and offline sexual behaviours, we explored any association between the use of pornography and the severity of the young male's offline HSB.

#### Dual HSB sub-group of those with offline HSB who also used pornography in a developmentally inappropriate way

Where the young male had offline HSB and was also viewing pornography at a developmentally inappropriate age or in a developmentally inappropriate way (in the absence of any other form of TA-HSB), this behaviour began, on average, at nine years of age; the same average age as the onset of their offline HSB. Among the cases where the order of the offline HSB and TA-HSB could be established (missing in four cases), half (n=6) of the young males in this group started off by viewing pornography and then progressed to offline HSB, 42 per cent (n=5) began with offline HSB, and for 8 per cent (n=1) the onset of both behaviours was noted as concurrent. The use of pornography and offline HSB was closely related for 56 per cent of this group as their offline HSB was said to have been triggered by their watching pornography. Some young males were noted as acting out something they had seen online. In three cases, it was also noted that the child/young person had exposed or attempted to expose another child/young person to pornography that would be inappropriate for their age or developmental stage or would be classed as illegal/extreme pornography.

Among this group, 37 per cent of the young males were known to continue watching pornography following detection, while 63 per cent continued their offline HSB following detection.

## Dual HSB sub-group who displayed various forms of TA-HSB

For the young males who displayed other forms of TA-HSB that often directly harmed another person, a clear link between their offline HSB and TA-HSB could only be identified in 26 per cent of cases. Within this dual HSB sub-group, the TA-HSB started, on average, three years later than their offline HSB. However, there were differences in the age of TA-HSB onset according to whether the young male had developmentally inappropriate pornography use alongside their other forms of TA-HSB.

For those who did, the TA-HSB started earlier, at an average 11.8 years compared with 13.2 years for those who had not watched pornography in a developmentally inappropriate way. This suggests that the developmentally inappropriate use of pornography may have started first, evolving to include other forms of TA-HSB at a later date. In spite of this finding, the average age of onset for the offline HSB did not differ according to the use of pornography; offline HSB started, on average, at 9.6 years. Only two young males in this dual HSB sub-group were known to have displayed TA-HSB before their offline HSB, while 68 per cent started with offline HSB. For 21 per cent of the group, the offline and TA-HSB were concurrent. Forty-seven per cent of young males in this dual HSB sub-group were known to continue with their TA-HSB following detection, while 68 per cent continued their offline HSB following detection. The rates of young males who continued engaging in offline HSB are, therefore, similar across the two dual HSB sub-groups.

One of the young males in this dual HSB sub-group attempted to expose another child/young person to pornography that would be inappropriate for their age or developmental stage or would be classed as illegal/extreme pornography.

Few similarities could be identified between the victims of the TA-HSB and the victims of the offline HSB for this group of young males (see Appendix 9). They appeared to be less discriminatory in the gender of their offline victims (37 per cent of offline victims were of both genders compared with 8 per cent of the TA-HSB victims) yet more discriminatory in the age of their victims (42 per cent of the TA-HSB victims were of various ages compared with 15 per cent of the offline victims) and their relationship to their victims (58 per cent of TA-HSB victims were of various relationships compared with 8 per cent of offline victims). Few similarities could be identified between the victims in the indecent images and the characteristics of the young male's offline HSB victims.

## Association between the use of pornography and the severity of offline HSB

We attempted to explore any association between pornography use and the severity of offline HSB as indicated by the use or attempted use of penetration. Among those with dual HSB who engaged in various forms of TA-HSB, there was no pattern in the use of pornography and penetration; of the 11 young males who were known to have watched pornography within this sub-group, six used penetration in their offline HSB while five did not. It was not possible to look at any association between obsessive use of pornography or the severity of the indecent images viewed and penetration due to the small sample size and missing information on these variables. We were also unable to explore whether there was any relationship between the severity of offline HSB and this behaviour being triggered by online activity.

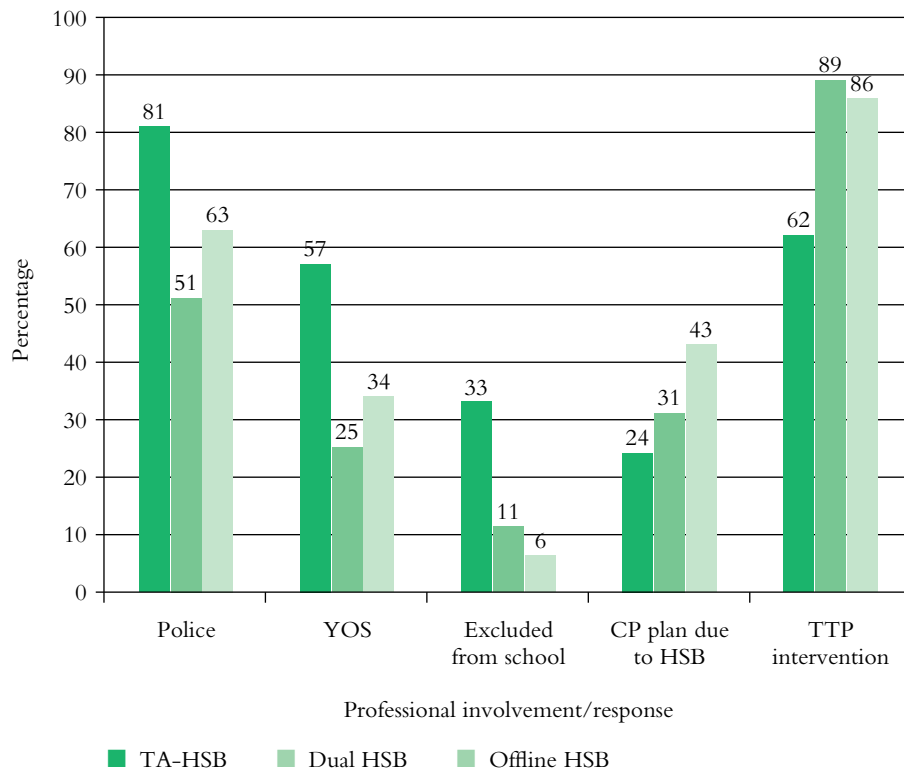
### Section 3: summary of key findings

- The developmentally inappropriate use of pornography appears to be more closely related to offline HSB than other forms of TA-HSB, and was identified as a trigger for offline HSB in more than half of the dual cases. In contrast, other forms of TA-HSB were more likely to follow on from offline HSB and occurred, on average, three years later.
- Few similarities could be identified between the victims of the TA-HSB, nor the victims in the indecent images, and the characteristics of these young males' offline HSB victims.

## Section 4: Professional involvement with, and response to, young males with TA-HSB

Figure 2 displays the professional involvement with, and professional response to, the HSB displayed by the young males in each of the three groups. As can be seen from this graph, there was more criminal justice involvement and more of a punitive response towards the young males in the TA-HSB group than the dual HSB group or the offline HSB only group. Conversely, more of the young males in the dual and offline HSB groups were offered 'Turn the Page' intervention and were placed on a child protection plan because of their HSB.

Figure 2: Professional involvement with, and professional response to, the HSB displayed by the young males in the TA-HSB only group, dual HSB group and offline HSB group



For some forms of TA-HSB, such as the downloading and trading of indecent images of children, police proactively search for offenders and are not reliant on victim disclosure, and when offences are identified there is hard evidence of the crime that has taken place. These offences may therefore come directly to police attention and as young people tend to be older when they engage in TA-HSB, they may be seen as more criminally responsible for their actions. This may help to explain why there is also greater Youth Offending Service involvement with the young males with TA-HSB only.

As all of those with dual HSB had prior social care involvement, there is likely to be a greater recognition among the professionals working with these young males that their HSB has developed within the context of their upbringing and experiences and they may therefore be seen to be less culpable. As such, there may be less of a desire to report offline or TA-HSB to the police, choosing to deal with it ‘in-house’ instead. The police may also be less likely to become involved if they are aware of, and satisfied with the level of, other agency involvement. This may also explain why more of the young males with dual and offline HSB are placed on a child protection plan following their HSB and why they are more likely to receive intervention through the NSPCC’s Turn the Page programme than those with TA-HSB. Indeed, the young males with TA-HSB appear to come from more

stable families and therefore their need for intervention may not be deemed as necessary as intervention with those who have experienced difficult upbringings and higher levels of abuse and neglect.

The previous research comparing young people with indecent images of children offences to those with contact sexual offences has not explicitly explored professional response to these offences. However, similarities between the findings from the current study and some of these previously published studies can be identified when scrutinising their data on conviction levels and the referring body into their service. In the study by Moultrie (2006), for example, it is noted that all of the seven adolescent males accessing indecent images of children had been arrested for the possession/distribution of them and were referred to their service by the youth offending service. This compares to just one third of those in the larger sample of young people with contact HSB; the majority of those with contact HSB had not been arrested and were managed and referred into the service by social care.

Stevens et al (2013) also note how all of their six young people with indecent images of children offences had a conviction for their offence compared with 50 per cent of the 30 young people who had sexually abused a child offline.

These findings support some of the explanations offered above as to why professional response may differ according to the type of HSB/sexual offence carried out (for example, police identification of the crime prior to identification of the offender or victim, level of social care involvement)

#### **Section 4: summary of key findings**

- Professional response to young males displaying TA-HSB appears to be more punitive than the response to those displaying offline HSB or dual HSB, which appears more therapeutic.



# Hypothesised trajectories of HSB for young males with TA-HSB only and those with dual HSB

The findings from this research show how young males engage in a range of TA-HSB and highlight how offline HSB and TA-HSB commonly occur together. However, there appear to be different levels of association between TA-HSB and offline HSB depending on the type of TA-HSB engaged in. The findings also suggest that the young males who engage ‘only’ in TA-HSB have different developmental characteristics and backgrounds to those with dual HSB, which is largely consistent with the findings from research with adults. While we recognise the heterogeneity among children and young people who engage in HSB, these research findings therefore allow us to hypothesise about the possible developmental trajectories leading to the onset and continuation of HSB among those with TA-HSB only and those with dual HSB.

It is important to note, however, that we do not know how the prevalence of the characteristics identified among the young males included in this research compare with their prevalence within the general population. While 43 per cent of the young males with TA-HSB only were noted to have difficulties regulating their emotions (which is a smaller proportion than those with dual HSB or offline HSB only [77 per cent and 74 per cent]), the prevalence of these difficulties may be high when compared with children and young people who have not engaged in any form of HSB. Factors such as these may therefore contribute to the overall development and onset of HSB, but they may help explain how some have a greater propensity to abuse others offline. Additionally, these trajectories are based on research carried out only with young males and may not, therefore, be applicable to young females who engaged in TA-HSB.

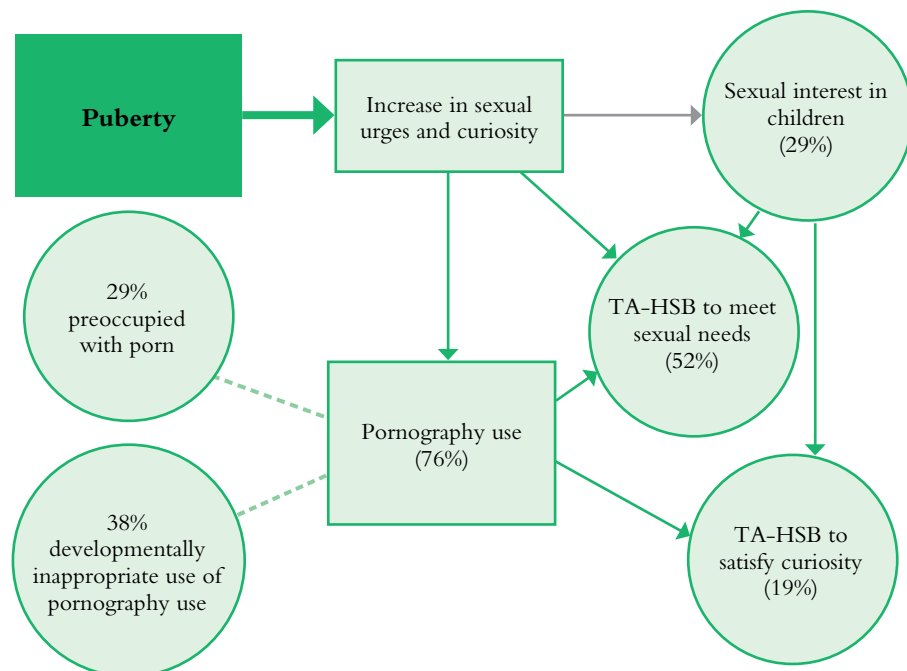
## Developmental trajectories leading to the onset of TA-HSB only

Previous research has often noted family dysfunction, trauma and abuse as developmental characteristics of children and young people with offline HSB (see Hackett et al, 2013, for more detail).

The emerging research findings, however, suggest that young males who display TA-HSB in the absence of offline HSB have been brought up in more stable and functional families with fewer instances of trauma and offline abuse (see, for example, Aebi et al, 2014; Moultrie, 2006). Their HSB is therefore unlikely to have developed in the same way as those with offline or dual HSB and may be carried out to meet different needs, albeit in an unsafe and potentially harmful way.

Figure 3 outlines one possible trajectory for the onset of TA-HSB, which focuses on the start of puberty and suggests the TA-HSB may be carried out to meet sexual needs associated with increased sexual urges, curiosity and pornography use.

Figure 3: Hypothesised trajectory of HSB development in young males with TA-HSB only – puberty



When entering puberty, young males may become more inclined to use the internet and technology as a way of seeking information about sex and satisfying their curiosity and sexual urges (for example, watching pornography and engaging in other sex-related behaviours like ‘sexting’). Indeed, these are common reasons given by young people for accessing pornography (Häggström-Nordin et al, 2009; Horvath et al, 2013) and ‘sexting’ has been described as a way of relieving sexual tension (Stanley et al, 2016).

Research has highlighted how young people’s sexual stimulation from watching pornography can increase with repeated viewing, coupled with a desensitisation to the images seen over time (Martellozzo et al, 2016). This may lead them to seek out more extreme images. A small number of studies have also reported progression in the type of images

viewed by young people over time and a link between frequent viewing and access to more troubling images (Svedin et al, 2011; H. Wood, 2013). Additionally, there is evidence that a substantial proportion of young people who watch pornography have a desire to try out what they have seen online (Flood, 2009; Häggström-Nordin et al, 2005; Martellozzo et al, 2016), particularly among older young people (for example, 15–16 year olds compared with 11–12 year olds) and males (Martellozzo et al, 2016). The use of pornography at this time may also be associated with ‘sexting’ behaviours, as research has found an association between the two (Stanley et al, 2016). Qualitative information from young people also suggests they often perceive ‘sexting’ as an extension of viewing pornography and see the two behaviours as interchangeable (Stanley et al, 2016).

In the current sample of young males with TA-HSB, the onset of TA-HSB started at the average age of 12, which coincides with the average age of puberty for boys (NHS, 2016). Seventy-six per cent of the group were known to have intentionally accessed pornography, which is higher than the 59 per cent rate of intentional access to pornography found among 11–16 year old boys in the UK survey by Martellozzo et al (2016). It is also higher than the rate of pornography use identified in the current sample of males with dual HSB (whose TA-HSB involved more than ‘just’ developmentally inappropriate use of pornography; 30 per cent). The TA-HSB group may therefore have been more inclined to watch pornography at the same time as/ following the onset of puberty, which may have influenced their thoughts, feelings and behaviours and contributed to their TA-HSB. In addition, almost a third of these young males were accessing pornography in a developmentally inappropriate way and some had become preoccupied with watching it. This may have led to them accessing more extreme images, including indecent images of children, and may have contributed to the sexual interest in children identified among almost a third of this group.

Finally, over a half of the young males were noted to have engaged in TA-HSB to meet their sexual needs and a fifth due to curiosity. These behaviours include the seeking of images of similar-aged peers online or through ‘sexting’, attempting to incite online and/or offline sexual activity with another child/young person by sending electronic messages, and trading indecent images of children with others. This may relate to their use of pornography or may occur independent of it.

While the young males in the TA-HSB group may experience an increase in sexual urges and desires, they may be less inclined to express these in a harmful way offline for a number of reasons. This group were found to have better emotional regulation, less impulsivity and less anger, aggression and general offending behaviours than those

with offline HSB in the current research, and this is likely to relate to their more stable and less abusive upbringings. They may therefore be more able to control their sexual urges so as not to physically abuse another person offline. This is in-line with some of the findings from the research carried out with adult online sexual offenders, which suggests that their sexual offending may remain online only as they have greater self-control and less impulsivity than contact sexual offenders (Babchishin et al, 2011).

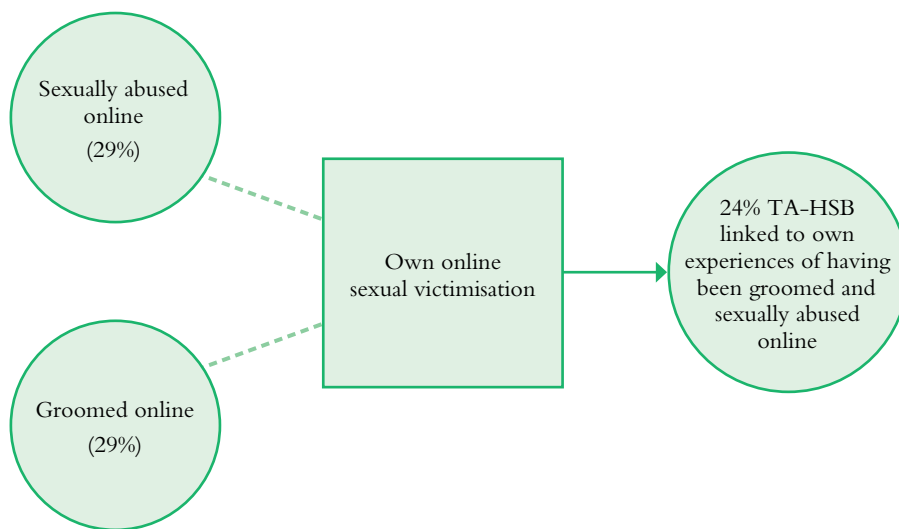
Additionally, there may be a greater reluctance to break the law among this group, as evidenced by lower levels of general offending behaviour, and they may be genuinely unaware that some of their TA-HSB (such as 'sexting') constitutes a sexual offence. Research by Martellozzo et al (2016), for example, noted that many young people do not recognise that the sending of intimate images (such as 'sexting') is illegal. For some of these young males, the seeking out of sexual images of similar-aged peers may be considered age-appropriate. While illegal, their behaviour may therefore be indicative of healthy sexual development as opposed to that which may be developmentally disruptive (for example, problematic sexual behaviours) or involve an element of coercion, manipulation and power (for example, abusive sexual behaviour).

This may differ to the psychology behind sexual behaviours that are directly harmful to another child or young person offline and may explain why they have not engaged in HSB offline. Finally, this group of young males with TA-HSB only were also found to be more intelligent and higher achievers than those with dual HSB and they may therefore be more aware of the consequences of abusing someone offline and more sophisticated in using technology to meet their sexual needs. However, they may also have greater beliefs that they are doing no harm by engaging in TA-HSB only, as opposed to offline HSB, given that they appear to have greater cognitive distortions than those with offline HSB also. Further research is needed into the motivations behind children and young peoples' engagement in TA-HSB to explore these theories in more detail. While the above trajectory may help to explain why some young males with relatively stable and secure backgrounds develop TA-HSB, it does not take into account the considerably high proportion of online sexual abuse and grooming experienced by this group.

As outlined in Figure 4, around a quarter of the young males in the TA-HSB only group engaged in TA-HSB that was directly related to their own experiences of online sexual abuse and grooming (in each of these cases their online sexual abuse and grooming co-occurred). For these young males, their TA-HSB may therefore have developed as a direct result of their own online sexual victimisation, through the normalisation of online abuse by their abuser (for example, the

viewing of indecent images of children), or blackmailing. One young male, for example, was blackmailed into uploading a number of indecent images of children that had been sent to him by an adult who had coerced him into sending a sexual image when pretending to be a peer-aged female.

Figure 4: Hypothesised trajectory of HSB development in young males with TA-HSB only – own online experiences of grooming and sexual abuse



While both trajectories towards TA-HSB have been outlined separately in this discussion, they may not constitute two discrete pathways and there may be an interaction between the two. There will also be some young males who do not identify with one of these trajectories whose TA-HSB may have developed along a different path.

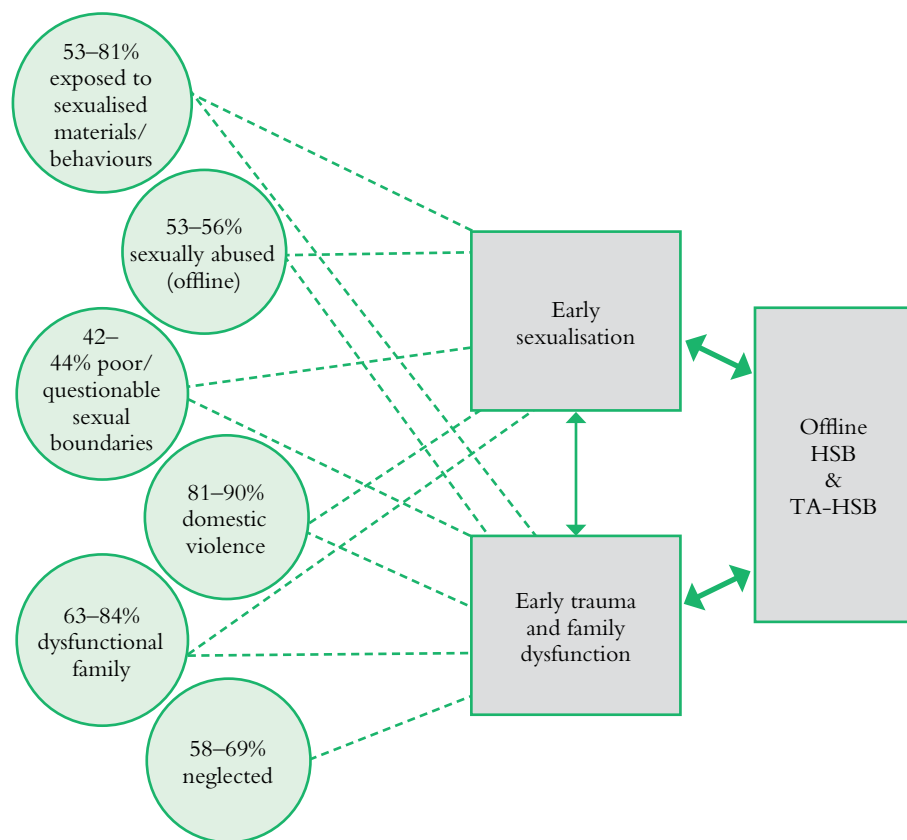
## Developmental trajectories leading to the onset of dual HSB

The profile of the young males with dual TA-HSB and offline HSB is generally consistent with previous research findings that have explored the backgrounds and characteristics of children and young people with HSB (see, for example, Hackett et al, 2013). Early sexualisation and early trauma and family dysfunction are common characteristics among these children and young people and despite the differences in the types of TA-HSB engaged in by the dual HSB sub-groups, few overall differences were identified in their backgrounds and characteristics.

Figure 5, therefore, outlines a hypothesised trajectory for the development and onset of dual TA-HSB and offline HSB for both dual sub-groups. This highlights how early sexualisation may result from poor or questionable sexual boundaries in the home, early exposure to sexual materials and behaviours and the child/young

person's own sexual abuse. In turn, this may lead to the intentional use of pornography at a developmentally inappropriate age and in a developmentally inappropriate way. For some, this may trigger the onset of offline HSB as a way of meeting sexual needs and curiosity, and acting out what has been seen online. For others, TA-HSB/developmentally inappropriate use of pornography may come after the onset of offline HSB and may help to reinforce the child/young person's sexual thoughts, urges and HSB as a result of early sexualisation.

Figure 5: Hypothesised trajectory of HSB development in young males with dual HSB. Percentages represent those in the two dual HSB sub-groups (those who used pornography in a developmentally inappropriate way 'only', and those with other forms of TA-HSB)



There is also evidence of trauma in the backgrounds of these children and young people and many have experienced domestic violence, neglect, sexual abuse and general family dysfunction. Their HSB may therefore develop as a way of meeting unmet emotional and attachment needs, to help regulate their emotions, and/or as a result of modelling or trauma re-enactment from their own sexual abuse (see Hackett, 2016). The offline HSB may therefore be the initial way in which these children attempt to meet their needs, evolving to other forms of TA-HSB when the young person gains greater access and freedom online with age. Indeed, accessing pornography and engaging

in ‘sexting’ behaviours have been noted as increasing with age (see Belton & Hollis, 2016).

Within both of the dual HSB sub-groups, the offline HSB appears to have been harder for the young male to stop than their TA-HSB, with more of them engaging in further offline HSB following detection than TA-HSB. These findings, together with those that highlight similar backgrounds and characteristics between children and young people with dual HSB and offline HSB, may suggest that the offline HSB is the primary behaviour/outlet for the young male’s sexual thoughts, feelings and urges. The TA-HSB may have acted as a catalyst for the onset and continuation of the offline HSB – in the case of those who used pornography in a developmentally inappropriate way – or may represent an evolving way in which the young males engage in HSB as they get older and have more freedom and access to technology and the online world.

While further research is needed to test these hypotheses among other children and young people, they provide an initial attempt to form an understanding as to how TA-HSB and dual HSB may have developed. These trajectories suggest that the HSB may have developed in different ways and for different reasons for those with TA-HSB only compared with those with dual HSB, and a different approach to intervention may therefore be required. These trajectories do not, however, explain the mechanisms behind the hypothesised associations (for example, *why* being sexually abused and groomed online may lead to TA-HSB, or *how* early sexualisation may lead to offline HSB and then TA-HSB) and further research is therefore needed to explore and develop these theories.

## Implications of the research for assessment, service delivery and professional development

The findings from this research have a number of implications for the assessment of children and young people with HSB, service provision, and the training and development of professionals working with these children.

### Assessment

There are three main findings from this research that have implications for the assessment of children and young people with HSB: the first is that offline HSB and TA-HSB were more likely to occur together among the young males referred to this HSB service than for TA-HSB to occur alone; the second is that offline HSB was more likely to follow on from the developmentally inappropriate use of pornography than from other forms of TA-HSB; and the third is that TA-HSB,



which is more directly harmful to other people, was more likely to come after offline HSB rather than the other way around.

Current risk assessment models have focused almost entirely on offline HSB (for example, AIM project [www.aimproject.org.uk] and ERASOR [Worling & Curwen, 2001]) and while attempts have been made to develop risk assessment models for adolescent males known to have accessed indecent images of children, such as the iAIM (see www.aimproject.org.uk), there is no guidance or assessment model that integrates assessment of the two types of HSB. The findings from this research suggest that an integrated approach to assessment that explores both offline HSB and TA-HSB together, as opposed to treating them as two distinct behaviours, would be the most beneficial to practitioners. This would help them understand the underlying aetiology of their HSB and any interaction between the two outlets of behaviour. As hypothesised in the previous chapter, TA-HSB and dual HSB may have developed in different ways and may be carried out to meet different needs. This should be explored further during assessment and when developing a case formulation to help inform the type of intervention that would be most beneficial for the child. Some children/young people may require more of a focus on education around illegal, harmful and non-harmful sexual behaviours and be encouraged to express their sexual urges in more appropriate ways. Others may need more therapeutic intervention to help address their own experiences of abuse.

A more integrated assessment would also divert attention from focusing mainly on trying to predict future offline HSB upon the discovery of TA-HSB (such as the use of indecent images of children) to focusing on exploring *any* past HSB and the likelihood of *any* future HSB.

Indeed, the research with adult online sexual offenders has highlighted difficulties in predicting offline sexual offending among those with indecent image offences (see Belton and Hollis, 2016). This is felt to be largely a result of low re-offending rates among adult offenders involved with indecent images of children and a lack of knowledge as to the risk factors for future offline sexual offending by this group. Given that the research with children and young people is less developed than that with adult offenders, this is likely to prove even more different for this group.

Nevertheless, this research does highlight an association between the use of pornography in a developmentally inappropriate way and engagement in offline HSB. This suggests that the discovery of developmentally inappropriate pornography use by a child (under the age of 13) and/or a preoccupation with pornography or accessing 'extreme' or illegal pornography should be assessed by professionals and taken seriously. The reasons for accessing the



pornography should be considered in detail, noting whether this is out of curiosity, to meet sexual needs, to meet emotional needs, etc, along with an assessment of the potential impact this is having on the child's developing sexuality and impulse to act out what they have seen. Given that the use of pornography and offline HSB tended to start around the same age in young males with offline HSB and developmentally inappropriate pornography use, practitioners should also consider whether the child is already displaying sexualised behaviours and whether they have, or may be likely to, engage in offline HSB. Indeed, previous intentional pornography use among children and young people presenting with offline HSB only should be explored during assessment as this may be a key driver behind their HSB, particularly in children and young people from chaotic families characterised by domestic violence, abuse and/or neglect.

The prevalence of 'sexting' among the young males in this study highlights an association between this behaviour and other forms of offline and TA-HSB. It is important for practitioners and professionals to recognise that 'sexting' may be consensual between two young individuals and may be regarded positively by those involved (Stanley et al, 2016). However, the current research found that many young males had incited another child/young person to send them a self-produced sexual image. This, in the context of their other harmful sexual behaviours, highlights a need for the thorough assessment of 'sexting' behaviours to understand the motivations behind this behaviour and how it fits in with the wider sexual behaviours engaged in by the child/young person. The UK Council for Child Internet Safety (UKCCIS) has produced guidance to help schools assess incidents of 'sexting' (UK Council for Child Internet Safety, 2016) and this may provide a useful starting point for any professional attempting to understand this behaviour while risk assessments for children and young people with TA-HSB are being developed.

### Service delivery and professional development

This research suggests that few children and young people with TA-HSB only are likely to be referred to and/or accepted onto the NSPCC's Turn the Page service. This is particularly so for those who are accessing pornography in a developmentally inappropriate way, given that the behaviour does not directly harm another person. If this is the only known behaviour to have been engaged in, it may fail to reach the threshold for a child to be assessed or to receive intervention within an HSB service. Indeed, there was only one young male identified within this research who was being assessed for their developmentally inappropriate use of pornography in the absence of other TA-HSB or offline HSB and this young person also had learning difficulties. In spite of this, the developmentally inappropriate use of pornography was identified as a trigger for offline

HSB for more than half of those in the dual HSB sub-group who used pornography in a developmentally inappropriate way (with no other TA-HSB). Additionally, the majority of young males with other forms of TA-HSB directly victimised another person through this behaviour and emerging research findings show how online sexual abuse can have as much of a mental and physical effect on the victim as contact sexual abuse (Hamilton-Giachritsis et al, 2016).

It is therefore important that we are able to identify and respond early and effectively to TA-HSB and are not reliant on adapting pre-existing models designed primarily to address offline HSB. The findings from this research have led us to hypothesise that there may be different pathways to TA-HSB than offline or dual HSB, and the intervention needed to address this behaviour may therefore differ. Current therapeutic intervention programmes are mainly designed to address offline HSB and this may help explain why a more punitive, criminal justice approach was taken with those displaying TA-HSB only than those who also engaged in offline HSB within this research. It may also help explain why there were few referrals to the Turn the Page service for TA-HSB alone as those with TA-HSB only may not appear to 'fit' the remit of this service. Referral forms are also geared more towards the understanding of offline HSB and do not explicitly focus on information gathering around TA-HSB. Adaptations may therefore be needed to referral forms that include a section explicitly asking the referrer to note any known TA-HSB displayed by the child/young person – with a definition of the types of behaviours this may include – to encourage consideration of these behaviours.

As HSB services are often in high demand and tend to focus on children with sexual behaviours that are more directly harmful to others, particularly those that occur offline, they may not be the most appropriate service to address pornography use by children and young people.

Instead, other professionals that come into contact with these children and whom already have a relationship with the family may be in a better position to intervene. Social care was involved with all of the young males identified in this research who were viewing pornography in a developmentally inappropriate way and who also engaged in offline HSB. It is, therefore, important to ensure that local authority professionals are confident and able to explore and identify pornography use among children and understand its potential significance for their behaviour. The same applies to schools where it was noted in a number of case files that children and young people were apprehended for attempting to access pornography on school computers. With appropriate training, social care professionals and others who come into regular contact with children may be able to

address this behaviour with the child and family, and intervene to prevent sexualised behaviours with offline HSB or further TA-HSB.

Schools in particular are in a position to educate children and young people about the reality of pornography and its divergence from real-world sexual relations. As noted by Stanley et al (2016), it is difficult to restrict children and young people's access to pornography and this may be more so for those living in chaotic families; (63 per cent of the young males with offline HSB who also used pornography in a developmentally inappropriate way came from chaotic or dysfunctional families). Parents have reported feeling unable to supervise all of their child's online activities, particularly as a lot of online use occurs in their bedroom or away from the home (Opinion Leader, 2017). Better education around the reality of pornography may therefore help to offset its impact on sexualised behaviours, misogynistic and gender-stereotyped attitudes, and harmful sexual behaviour.

The findings from this research suggest there is a lack of confidence and knowledge among professionals in the recognition of TA-HSB and how to respond to it. The NSPCC practitioners who classified the HSB within the case files used in this research overlooked the TA-HSB in almost half of the dual HSB cases. Indeed, TA-HSB may be misunderstood or viewed as less serious than offline HSB, meaning that referrers and service providers may be less likely to identify a service need for children and young people with these behaviours. This is in-line with emerging research findings that suggest that professionals do not view online sexual abuse as being as relevant or impactful as offline sexual abuse, despite findings on the contrary (Hamilton-Giachritsis et al, 2016). The more punitive response taken towards TA-HSB, as identified in this research, may be indicative of a fear and lack of knowledge about the risk posed by TA-HSB and how to respond to it safely and effectively. This may help explain why more police involvement and greater levels of exclusion from school were identified for the young males with TA-HSB only.

In contrast, more is known about offline HSB and how to manage the risks posed by this behaviour that may have contributed towards the implementation of more child protection plans and intervention for these children and young people.

Further training and professional development is therefore needed for practitioners working with children and young people with TA-HSB. It is important that practitioners have the knowledge and confidence to assess and respond to children and young people with TA-HSB as this will influence the extent of the assessment carried out, the level of risk identified and the most suitable approach to intervention. Education as to the types of behaviours that constitute TA-HSB, how to identify these behaviours, and recognising and overcoming

practitioners' own assumptions of 'normal' and harmful online and technology-assisted sexual behaviours would therefore be useful. This should be accompanied by training in how to carry out assessments and case formulation with these children and young people. Training could include the types of questions to ask when assessing TA-HSB, such as exploring the child/young person's motivations for the behaviour (for example, accessing indecent images of children) and motivations for prior online or technology-based contact with their victim in order to explore factors like grooming. Attention should also be given to the education of professionals around the legal implications of TA-HSB.

Recording of the different types of behaviours displayed by these children and young people also requires improvement in order to assist with future research aimed at developing our understanding of these behaviours and the children and young people who engage in them.

### Developments in this area being made by the NSPCC and AIM project

The NSPCC is collaborating with AIM project to develop a training package for professionals working with children and young people who have engaged in TA-HSB. This package aims to disseminate relevant and contemporary information to practitioners regarding the facilitating function of technologies in sexual harm to children, and how to confidently develop a case formulation in respect of young people's TA-HSBs. The training package will be evidence-informed, cross-referencing with key professional standards. Importantly, the intention of the training package is to equip practitioners with an assessment framework to assist with the collection, collation, analysis and safety planning associated with TA-HSB.

# Strengths and limitations of the research

This research represents one of the first attempts to explore all forms of TA-HSB and its association with offline HSB, building on the findings from previous research that has focused on young males' use of indecent images of children. The size of the sample with TA-HSB is larger in the current research than the previous two studies carried out in the UK (six and seven participants, respectively; Moultrie, 2006, and Stevens et al, 2013) and included younger children as well as adolescents. It has also included a focus on young males with dual TA-HSB and offline HSB and professional engagement with these young males, neither of which have been explored in the literature to date. The current research has therefore advanced our understanding of the range of TA-HSB young males engage in, the association between offline HSB and TA-HSB, and the developmental characteristics, family background, environmental factors, and harmful sexual and non-sexual behaviours of a sample of young males who engage in TA-HSB and dual HSB. It also provides us with some insight into professional response to, and engagement with, young males who are known to have engaged in TA-HSB alongside, or in the absence of, offline HSB. As such, we are in a better position to advance the development of guidance for professionals and practitioners working with children and young people who have watched pornography in a developmentally inappropriate way and/or engaged in other forms of TA-HSB. It also highlights areas for development in service delivery alongside training and education for professionals.

Nevertheless, this research is based on real-world data collected as part of the Turn the Page service and not specifically for research purposes. The data needed for this research was therefore available only if the practitioner gained the information and deemed it important enough to be mentioned in the young person's case notes or assessment report. As such, recording of the data is subject to practitioner bias and there was a high level of missing or ambiguous data that prevented us from exploring certain variables (for example, sexuality). Many of the percentages reported will also be an underestimation of the true presence of a characteristic (for example, pornography use). Some practitioners may not have recorded all of the information on the HSB carried out by the young person and there are likely to be hidden behaviours that may have skewed the findings for the groups the young people were classified into in this research. Bias is also introduced by the researchers' interpretation of the information written in the young person's case notes and how this was subsequently extracted and coded for research purposes.

While the current sample size of young males with TA-HSB is larger than that used in previous UK studies, it is still relatively small (n=21 in the TA-HSB group and n=35 with dual HSB). This limited our use of statistical tests to explore differences between the three groups of young males and to explore sub-group differences with the dual group.

It should also be recognised that this population of children and young people have been detected for their HSB and the HSB deemed serious enough for referral to, and acceptance onto, an HSB service for assessment and/or intervention. The group may therefore be unrepresentative of those who have engaged in HSB and remained undetected, or those with lower levels of inappropriate/problematic HSB. We were unable to explore young females' engagement in TA-HSB within this research as we did not randomly identify enough females to allow for meaningful exploration or comparison with males. As previous research in this area has also focused exclusively on young males, we do not know if the research findings are applicable to females.

Given the cross-sectional nature of this research, we were unable to explore risk factors for TA-HSB and re-offending rates among the children and young people accessing the Turn the Page service.

## Need for further research

The current research has demonstrated how children and young people engage in a range of TA-HSB, highlighting a need for future research to move away from focusing just on those who use indecent images of children and to consider other forms of TA-HSB. In particular, further research is needed to explore grooming behaviours among children and young people, as very little attention has been given to this so far. This would help to establish whether or not this is more geared towards the commission of online sexual abuse (for example, the gaining of a sexual image from their victim) and the extent to which grooming may be done to facilitate offline HSB.

As yet, the use of pornography at a developmentally inappropriate age and in a developmentally inappropriate way has not been thoroughly explored among children and young people who engage in HSB. The findings from this research suggest that further consideration should be given to learning more about the association between pornography use and HSB among children and young people and the implications this has for intervention. With this in mind, future research should also consider the differences identified in the TA-HSB of those with dual HSB and further explore the different association between forms of TA-HSB and offline HSB. Further research is also needed to build on the current research findings regarding the differences between children and young people with TA-HSB versus dual HSB and how this relates to their engagement (or not) in offline HSB.

The motivations for children and young people engaging in TA-HSB, including behaviours like grooming, accessing indecent images of children and 'sexting', also requires further investigation. This is important as it will help practitioners to understand why children and young people engage in these behaviours, the needs being met, and the level of risk associated with it.

In doing so, researchers should also consider and explore whether the behaviour and the motivations behind it could be considered age-appropriate. Relatedly, further research is also needed to explore the trajectories leading to TA-HSB and dual HSB, seeking to validate and expand on the three trajectories hypothesised in this research or to develop new trajectories of behaviours.

Larger prevalence studies that look at self-reported TA-HSB among children and young people within the wider population is desirable. While this raises a number of ethical challenges, particularly with younger children, it would help to provide a more accurate understanding of the prevalence and range of these behaviours and their associated risks without relying on children and young people who have met a threshold of behaviour warranting referral to a HSB

service. Indeed, research using self-report surveys to explore the use of indecent images of children and illegal pornography among young people has reported higher rates than officially recorded figures (see Belton and Hollis, 2016). Research with other populations of children and young people known to have engaged in TA-HSB is also needed to establish whether similarly high rates of TA-HSB are identified and to explore whether the backgrounds and characteristics of those with TA-HSB and dual HSB, as summarised in this research, are representative of other populations. This research should extend to include young females who engage in TA-HSB where possible.

Finally, further research is needed to explore practitioners' perceptions, knowledge and understanding of online/TA-HSB to help inform future training and educational packages regarding assessment and intervention. This should extend to professionals working within a child protection context also, to understand their perception of TA-HSB and their attitudes towards pornography use among children and young people.



# Conclusion

The prevalence of TA-HSB identified among the children and young people accessing the NSPCC's Turn the Page service was high and it was rare that this behaviour occurred in the absence of offline HSB. A range of different types of TA-HSB was displayed by the young males in our sample and, while the developmentally inappropriate use of pornography was closely related to offline HSB in a considerable number of cases, other forms of TA-HSB appear more distinct to offline HSB. This has key implications for the way in which HSB is assessed. There are likely to be different developmental trajectories leading to the HSB of those with TA-HSB only compared with those with dual offline and TA-HSB based on the differences in their backgrounds and developmental characteristics. We hypothesise that engaging in TA-HSB (only) may relate to the onset of puberty, pornography use and/or the young male's own online sexual victimisation and grooming.

As those with dual HSB showed many similarities to those with offline HSB only, we hypothesise that their offline HSB may be the primary behaviour resulting from early sexualisation, trauma and/or family dysfunction. Their TA-HSB may be a precursor to this behaviour (in the case of the developmentally inappropriate use of pornography) or may evolve with age and greater technological and online freedom. Appropriate intervention should therefore be developed in order to ensure it meets the needs of the individual child/young person.

Finally, this research highlights a need for further research to explore practitioners' and professionals' knowledge, understanding and confidence in recognising and responding to TA-HSB, along with training to develop their skills in these areas.

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# APPENDICES

## Appendix 1: The NSPCC's Turn the Page service for harmful sexual behaviour

Turn the Page is an assessment and treatment service delivered by the NSPCC (since 2011) for children and young people (male and female), aged 5–18 years, who display harmful sexual behaviour (HSB). This includes those with a mild to moderate learning difficulty. In order for a referral to be accepted onto the service for assessment, there must be evidence that the child or young person has displayed some form of HSB. This can range from problematic sexual behaviours, which are developmentally disruptive and may cause distress, rejection or increase the risk of the child being victimised, through to abusive sexual behaviours that may cause physical or emotional harm to the victim and involve an element of coercion, manipulation and power.

Criminal conviction or prosecution is not a referral requirement but the case must be open to social care or the youth offending service and any criminal proceedings addressed.

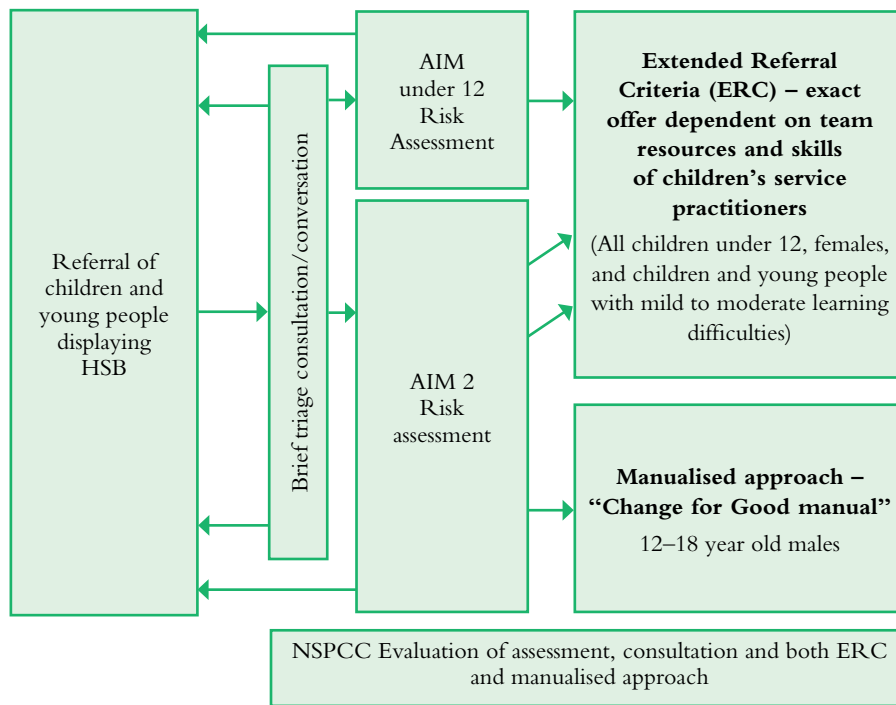
The assessment for this programme is based on the AIM (Assessment, Intervention and Moving on) assessment models (see [www.aimproject.org.uk](http://www.aimproject.org.uk)), which encourage a partnership approach and provide a holistic assessment of the young person and their environment. Assessment determines the level of risk posed by the child/young person along with their strengths, needs, capacity to change and the degree of support that parents/carers are able to provide. On this basis, a decision regarding the need for, and suitability of, treatment can be determined.

For young males aged 12–18, a treatment programme is delivered using the Change for Good manual (McCrorry, 2011), which was developed by Eamon McCrorry with input from NSPCC practitioners.

For adolescent girls, young people with a learning difficulty, and younger children aged under 12, Turn the Page takes a flexible approach to responding to their problematic or harmful sexual behaviour, and the most appropriate treatment model(s) and methods are identified on a case-by-case basis by the NSPCC Children's Service Practitioner.



The following diagram outlines the structure of the current Turn the Page service:

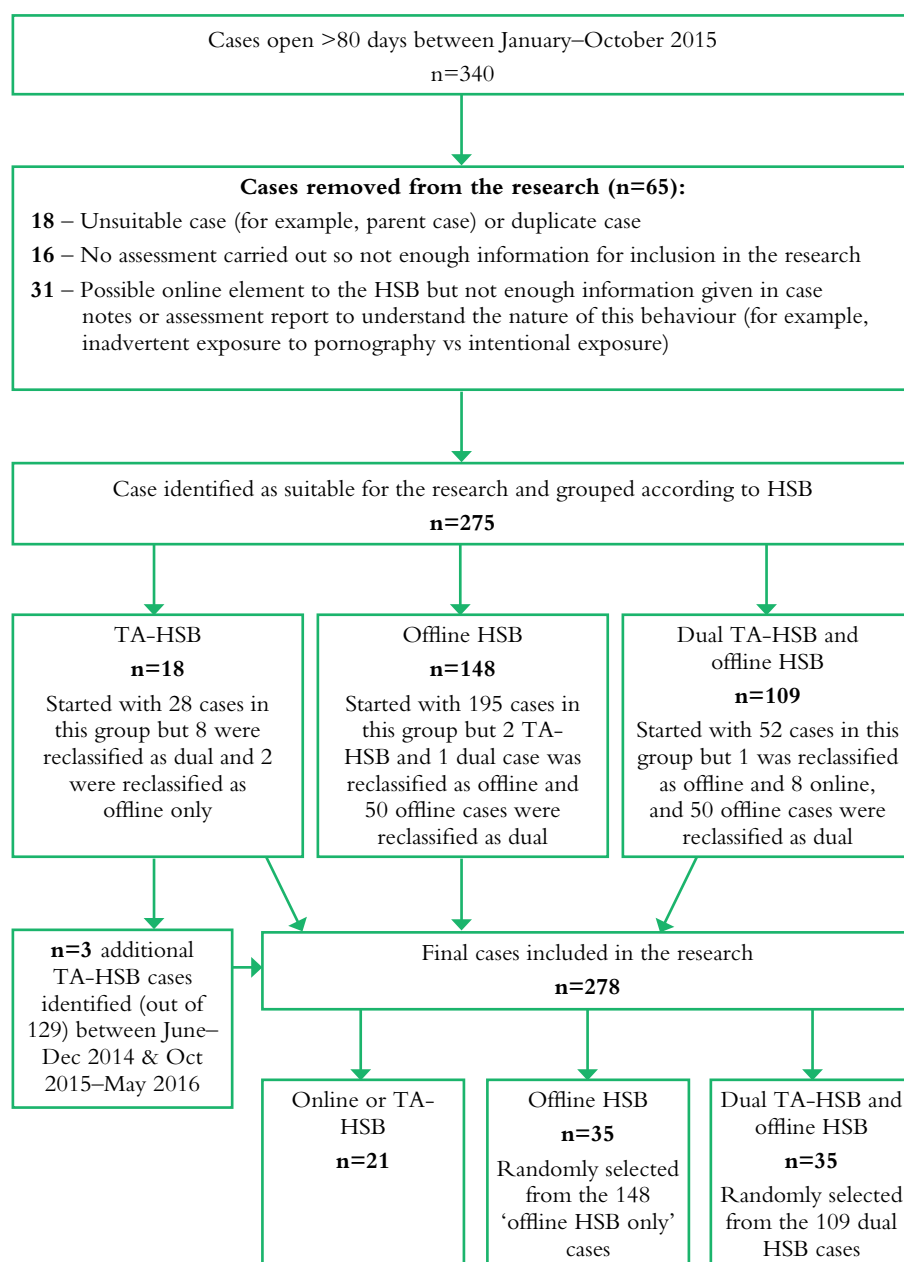


## Appendix 2: British Board of Film Classification's (BBFC) definition of unacceptable pornographic content

The BBFC classify the following as unacceptable pornographic content (BBFC, 2014):

- “Material which is in breach of the criminal law, including material judged to be obscene under the current interpretation of the Obscene Publications Act 1959;
- Material (including dialogue) likely to encourage an interest in sexually abusive activity which may include adults role-playing as non-adults;
- The portrayal of sexual activity which involves real or apparent lack of consent. Any form of physical restraint which prevents participants from indicating a withdrawal of consent;
- The infliction of pain or acts which may cause lasting physical harm, whether real or (in a sexual context) simulated. Some allowance may be made for moderate, non-abusive, consensual activity;
- Penetration by any object associated with violence or likely to cause physical harm;
- Sexual threats, humiliation or abuse which do not form part of a clearly consenting role-playing game. Strong physical or verbal abuse, even if consensual, is unlikely to be acceptable.”

## Appendix 3: Flowchart demonstrating case identification and inclusion process



## Appendix 4: Data extraction matrix

	Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Matrix #:			
	HSB group:		Internet only    Contact only    Dual internet and contact	
	TTP case:		CfG    ERC	
ID	Service centre			
	Case number			
	Person number			
	Date received by NSPCC			
	Referring organisation		YOS    Local authority    School Other (who?)	
Young person's demographic characteristics	Gender		Male    Female	
	Age at time of referral			
	Ethnicity			
	Physical or learning disability/ difficulty ( <i>diagnosed or suspected</i> )	Any physical condition/difficulty/disability?	No    Yes ( <i>details</i> )	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Any learning, social, behavioural or difficulty?	No ADHD Dyslexia Developmental delay Conduct disorder	Autism Spectrum Disorder (ASD) Dyspraxia Learning disability Other (details)
	Do/have they received support from an external professional/ team for their difficulties?	No Yes (details)	
Mental health problems (diagnosed or suspected)	Any <u>noted</u> concerns regarding mental health problem(s) (diagnosed or otherwise) (look on the AIM2 scoring grid and TSCC/YC results if available)	No Yes (details)	
	Any <u>noted</u> contact with mental health services?	No Yes (details), including past or present	
Substance use/misuse	Any <u>noted</u> alcohol use/misuse? Any <u>noted</u> drug use/misuse?	No No	Yes (details), including past or present Yes (details), including past or present
Care history/ Looked after status and living arrangements	Details of current living arrangements (including any separation from a parent) Details of previous living arrangements (if different) (including any separation from a parent)	No	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Have they ever been known to social care? (TAC, CiN, CP level)	No Yes (details)	
	Are they currently on a child protection plan because of their HSB? (only answer yes to this if sure it is because of their HSB/no other obvious issues in the family)	No Yes	
Access to children/ young people	What access does the young person have to children or other young people? (e.g., within their home, family network, school/work, hobbies/activities)	Access prior to HSB: Current access (if different):	
	Does access tend to be supervised?	Access prior to HSB: No Yes Current access (if different): No Yes	
Young person's developmental factors	Has the young person experienced maltreatment (e.g., abuse or neglect) or victimisation (e.g., bullying, crime, etc.) in the family, school or community, including online and contact victimisation?	No Yes (details) of ALL their experiences)	
	Have they ever been groomed?	No Yes – online Yes – offline	
	Do their experiences of being groomed link to their HSB?	No Yes (details)	
	Have they had any treatment/intervention for their victim experiences?	No Yes (details)	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Are there any noted issues regarding unresolved trauma?	No Partially Yes (details)	
	Have they been exposed to sexualised material or sexualised behaviour ( <i>excluding direct sexual abuse</i> )? (mark as unclear if not mentioned)	No Yes (details)	
Significant life events/ non-victimisation adversity	Has the young person experienced adversity in their lives ( <i>aside from maltreatment/victimisation</i> )? e.g., parental separation, bereavement, trauma or loss?	No Yes (details)	
Education/ employment history	Any problems with school attendance and achievement?	Before HSB: No At time of HSB: No Current: No	Yes (details) Yes (details) Yes (details)
	Said to be performing well in school?	No Quite	Yes (details)
	Described as intelligent/bright/ high achiever etc.?	No Partially	Yes (details)
	Have they ever been excluded/suspended?	No Yes	
	In education or employment?	Before HSB: No At time of HSB: No Current: No	Yes Yes Yes
Sexuality	Young person's sexuality/sexual preference?	Heterosexual Other	Homosexual Questioning/confused

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
Sexual interest in children	Indicated/shown signs of sexual interest in children?	No Partially Yes	
Sexualised behaviour	Problematic sexual behaviour started before puberty?	No Yes	
Known pornography use	What types of pornography do they/ have they looked at? ( <i>circle all that apply</i> )	Soft-core Adolescents S&M 'Hard-core' Animals Other ( <i>details</i> ) Adults Violence Rape	
	Is this obsessive/is the young person preoccupied with watching porn?	No Partially Yes Unclear	
	Has the type of porn being viewed increased in strength/severity/illegality?	No Yes ( <i>details</i> )	
Emotional congruence/ identification with younger children	Does the young person identify more with younger children than similar-aged peers (emotional congruence with children)?	No Partially Yes	
Friendships and support network	Does the young person have friends/a friendship network (online and/or offline)?	No A small amount Yes ( <i>details including if online/offline</i> )	
	Are their friends involved in criminal activity/have pro-offending attitudes (sexual or non-sexual)?	No Some of them Yes ( <i>details</i> )	
	Is the young person socially isolated?	No Partially Yes	



Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	How are their social skills described?		
Internet activity	What activities do they do online?	chatrooms online dating	social media You Tube
Coping behaviour/ problem-solving skills	Do they have good negotiation/ problem-solving skills?	Partially	gaming pornography Other (details)
	Difficulty regulating their emotions?	No	Yes
	Problems with impulsivity/ compulsivity?	No	Yes
Communication skills	Does the young person have good communication skills? <i>Note any difficulties in this area</i>	No	Compulsivity (details)
Anger/ aggression/ hostility	Overly angry/aggressive/hostile towards themselves or other people?	No	To themselves (details) To others (details)
	Do there appear to be any triggers for this behaviour?	No	Yes (details)
Self-esteem/ self-image	Do they appear to have low self-esteem?	No	Partially
	Are they under/over assertive?	No	Overassertive Underassertive/passive
Daily structure/ prosocial activities	Do they have any regular activities/ structure to their daily lives? (state yes to this question if they are/ were in school)	Before HSB: At time of HSB: Current:	No Yes No Yes No Yes

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Do they have any talents/hobbies/interests?	No Yes (details)	
Resiliency/ protective factors	Any noted protective/resiliency factors in their life and relationships?	Before HSB: No At time of HSB: No Current: No	Yes (details) Yes (details) Yes (details)
Family dynamics/ characteristics	Family relationships	No Partially Yes (details)	Yes (details)
	Has the young person experienced parental divorce/separation?	No	
	What is known about the sexual boundaries within the family (current and/or previous)?		
	Have there been any known sexual offenders within/associated with the immediate or extended family (including any previous partners of caregivers) (mark as unclear if not mentioned)	No	Yes (details)
History of family/ parental difficulties	Significant adults in their lives have their own trauma or problematic behaviours? (include mental health problems, substance misuse, domestic violence)	No	Yes (details)

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
Parental acceptance/rejection towards the young person	What is the quality of the young person's attachments to their main caregivers? ( <i>give an overall assumption</i> ) Parents/carers attitudes towards the young person (current and previous if currently accommodated)?	Positive Negative Neutral Mixed Unclear	Unclear
Parental attitude towards the young person's HSB	What was the parent/carer's response in the space following the identification of the HSB? Do parents/carers express anger/blame towards the victim of their young person's HSB?	Positive Negative Neutral Mixed Unclear	Unclear
Ability of parents/ carers to supervise and protect the young person	Do parents/carers try to supervise the young person's online and offline activities? ( <i>take a summary/ overall view on this</i> ) How capable are parents/carers at supervising the young person online and offline? ( <i>take a summary/overall view on this</i> )	No Partially Yes  Online: No Offline: No A little A little Yes Yes  Online: Very Offline: Very A little A little Not very Not very	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
<p>Details of online and offline HSB</p> <p>Details of online HSB (behaviour and/or offences)</p>	<p>What online HSB has the young person displayed?  <b>(Make sure to include details of ALL online HSB)</b></p>	<ul style="list-style-type: none"> <li>*Grooming.</li> <li>*Making indecent images/movies (what does the image involve?)</li> <li>*Possessing indecent images/movies (what does the image involve?)</li> <li>*Distributing indecent images/movies (what does the image involve?)</li> <li>*Attempting to meet up with someone they have groomed online</li> <li>*Sexual harassment/inciting sexual activity via messages (text, email, etc.)</li> <li>*Swapping indecent images of themselves for indecent images of other people</li> <li>*‘Cybersex’ with a child/vulnerable young person</li> <li>*Persuaded another young person/child to take a picture of themselves or someone else</li> <li>*Developmentally inappropriate use of adult/mainstream porn</li> <li>*Other (details)</li> </ul>	
	<p>If images/movies are involved, what is known about the severity of the images <i>(type and nature of the image and the age, gender and relationship of the person(s) within them. How many victims)?</i></p>		
	<p>Does there appear to be a pattern/similarities in the types of images accessed/stored?</p>	<p>No                      Some                      Yes <i>(details)</i></p>	
	<p>How many images/movies are involved? <i>(provide any information, even if not numeric)</i></p>		

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	How did they gain access to the images?	Bought them Were sent them by another person Accidental Self-produced Purposely downloaded/ viewed on internet Other (details)	
	For how long has the online HSB been known to have gone on for? <i>(including how long they have been collecting images for)</i>	No In some Yes	
	Did the young person use threats/violence/coercion in relation to their online HSB?	No Partially Mixed Yes <i>(details)</i>	
	Does this behaviour appear to be experimental or developmental rather than abusive <i>(e.g., downloading images of similar aged peers, other person was of a similar age, ability and gave consent, no coercion was used, etc.)</i>	No Partially Mixed Yes <i>(details)</i>	
	What needs was the young person trying to meet through their online HSB?	<ul style="list-style-type: none"> <li>*Sexual needs</li> <li>*Curiosity</li> <li>*As a swap to gain access to age-appropriate material or other benefit</li> <li>*Emotional need</li> <li>*Gain revenge</li> <li>*Unclear</li> <li>*Other (details)</li> </ul>	
	Do there appear to be any triggers for this behaviour?	No Yes <i>(details)</i>	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Were they noted to be under the influence of alcohol or drugs at the time?	No Yes <i>(details)</i>	
	What were their living arrangements at this time?		
	What was their access to children at this time?		
	Was any other person involved in the young person's online HSB?	No Yes – an adult/older person Yes – younger than them	Yes – a peer
	Were any restrictions placed on the young person following identification of their online HSB?	No Partially Yes <i>(details)</i>	
	Have the police been involved in relation to the young person's online HSB? <i>(This should include details on known arrests, charges, cautions and convictions)</i>	No Yes <i>(details)</i>	
	Are they known to have continued to engage in online HSB following detection?	No Partially Yes <i>(details)</i>	
Details of offline HSB (behaviour and/or offences)	Has the young person displayed HSB offline <i>(including contact and non-contact offline HSB)</i> ?	No Yes <i>(details)</i> of all offline sexual behaviours)	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Was there a direct victim ( <i>age, gender, relationship to young person? How many victims?</i> )?		
	Did they meet the victim online?	No	
	For how long is the offline HSB known to have gone on for?	Yes (how?)	
	Did the young person use threats/violence/coercion in relation to their offline HSB?	No                      Yes	
	Did their offline HSB involve any kind of penetration?	No                      Yes ( <i>details</i> )	
	Does this behaviour appear to be experimental or developmental rather than abusive ( <i>e.g., downloading images of similar aged peers, other person was of a similar age, ability and gave consent, no coercion was used, etc.</i> )	No                      Partially                      Mixed                      Yes ( <i>details</i> )	
	What needs does the young person appear to be trying to meet through their offline HSB?	<ul style="list-style-type: none"> <li>*Sexual needs</li> <li>*Curiosity</li> <li>*Emotional need</li> <li>*Gain revenge</li> <li>*Unclear</li> <li>*Other (<i>details</i>)</li> </ul>	
	Do there appear to be any triggers for this behaviour?	No                      Yes ( <i>details</i> )	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Was their offline HSB influenced or facilitated in any known way by online activity? (e.g., from watching porn, incited by someone they met online, etc.)	No Partially Yes (details)	
	Was any other person involved in the young person's offline HSB (aside from victims)?	No Yes – an adult/older person Yes – younger than them Yes – a peer	
	Were they noted to be under the influence of alcohol or drugs at the time?	No Yes (details)	
	What were their living arrangements at this time?		
	What was their access to children at this time?		
	Were any restrictions placed on the young person following identification of their offline HSB?	No Partially Yes (details)	
	Have the police been involved in relation to the young person's offline HSB? (This should include details on known arrests, charges, cautions and convictions)	No Yes (details)	



Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
	Are they known to have continued to engage in offline HSB following detection?	No Partially Yes ( <i>details</i> )	
Sexual/ aggressive fantasies	Is the HSB (online and/or offline) linked to sexual or aggressive fantasies?	No Partially Yes	
	Does the young person show signs of/is known to act out their aggressive/sexual fantasies offline?	No Partially Yes ( <i>details</i> )	
Denial of HSB	Does the young person deny their HSB?	Online: No Offline: Yes In part In part	
Accept responsibility for their HSB?	Do they accept responsibility for their HSB?	Online: No Offline: Yes In part In part	
Attitudes and cognitive distortions	Do they show regret about their HSB ( <i>online or offline</i> )?	Online: No Offline: Yes In part In part	
	Did they know their <u>online</u> HSB was wrong?	When it first started: No By the time they were caught: No In part In part	Yes Yes
	Did they know their <u>offline</u> HSB was wrong?	When it first started: No By the time they were caught: No In part In part	Yes Yes
	Do they display cognitive distortions/beliefs that minimise or support their online or offline HSB?	No Partially Yes ( <i>details</i> )	
	Do they display cognitive distortions towards children?	No Partially Yes	

Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
Attitude towards their victim(s)	What are their attitudes towards their online HSB victim(s)?		
	What are their attitudes towards their offline HSB victim(s)?		
	Poor general capacity for empathy?	No Partially Yes	
	Do they blame their victim(s)? <i>(answer if there is a direct victim only)</i>	No Partially Yes	
Do they want help with their HSB?		No Partially Yes	
Have they been offered TTP intervention or other HSB service?		No Yes (details)	
	Any noted problems with attendance/engagement?	No Yes (details)	
General offending history	Any noted previous general offending aside from HSB-known to the police or otherwise? <i>(include details on allegations, known arrests, charges, cautions and convictions)</i>		
	At what age did the young person start engaging in general offending/ crime/anti-social behaviour?		
	Do there appear to be any triggers for this behaviour?	No Yes (details)	

	Question	Sub-question	Answer (circle/delete)	Info unknown/not mentioned
		Are they currently, or have they ever been, involved with the Youth Offending Service?	No <i>Yes (details)</i>	
	Known cruelty towards animals		No <i>Yes</i>	
	Sequencing of HSB and offending	How old was the young person at the onset of their HSB (online or offline)? Have they previously been referred to a HSB service? If yes, what age(s) were they?	Online: Offline:	
		What is the order of the young person's general offending, online HSB and offline HSB ( <i>which came first, do they occur concurrently, etc.</i> )?		
		Does there appear to be escalation in the young person's behaviour across all of their HSB (including online and offline)	No <i>Yes (details)</i>	

## Appendix 5: Table outlining the different types of TA-HSB displayed by the young males accessing TTP

This includes a definition of what each category included, proportion of those with TA-HSB displaying each behaviour, and a statistical comparison of the prevalence of these behaviours among the TA-HSB only group and the dual HSB sub-group of young males with various forms of TA-HSB (excluding those whose TA-HSB 'only' involved the developmentally inappropriate use of pornography)

### Notes

\*NS = not significant

\*\*Chi-square statistic is reported where possible but in some cases (where the cell count fell below 5) Fishers exact test was carried out. Young males with missing data were excluded from chi-square analysis.

\*\*\* $p < 0.01$

\*\*\*\*'Other' types of TA-HSB identified that could not easily be classified into one of the above categories include: writing violent sexual stories and posting them on Facebook, phoning sex lines, blackmailing someone to send them more indecent images of children, and sending 'inappropriate' messages and 'pestering' girls on Facebook where the content of these messages and contacts were unclear (there was not enough information in the case files to class them as sexual harassment but it was likely these had sexual connotations given the context of the assessment report).

Type of TA-HSB	Definition	Prevalence of the behaviours among all TA-HSB cases (n=56) n (%)	TA-HSB only group (n=21) n (%)	Dual HSB sub-group of young males with various forms of TA-HSB (n=19) n (%)	$\chi^2$ comparison of TA-HSB and dual HSB sub-group
Developmentally inappropriate use of adult/mainstream pornography ( <i>including attempted use</i> )	<ul style="list-style-type: none"> <li>– Intentional use of mainstream, legal pornography which is likely to be harmful for the child/young person given their age or developmental needs. This would be so for any child using pornography under the age of 13 or any child/young person who has become obsessed/preoccupied with the use of pornography.</li> <li>– The use of extreme/illegal pornography (excluding indecent images of children as these have been classified separately) including bestiality, fetishism and violence.</li> </ul>	34 (61%)	8 (38%)	10 (53%)	0.42, NS*
Developmentally inappropriate use of pornography only/ mainly	The only form of TA-HSB displayed by the child/young person is the developmentally inappropriate use of pornography.	17 (30%)	1 (5%)	0	–
'Sexting'; the sending and/or receiving of sexual images (self-taken) or messages to/from another child/young person ( <i>including attempts</i> )	The sending and/or receiving of self-generated sexually explicit electronic messages (through email, text, social media, etc.) and/or the sending and possession of self-generated nude/sexualised photographs taken by a child or young person (including the forwarding of self-taken images of other children/young people)	26 (46%)	14 (67%)	12 (63%)	0.002, NS
Possession of a 'sext' (image) from another child/young person (including attempts to gain one)	In possession of an image which has been generated as a 'sext'. Majority had incited the young person to send them the picture whilst some gained them by swapping for their own picture.	10 (18%)	7 (33%)	3 (11%)	NS (Fisher's Exact**)

Type of TA-HSB	Definition	Prevalence of the behaviours among all TA-HSB cases (n=56) n (%)	TA-HSB only group (n=21) n (%)	Dual HSB sub-group of young males with various forms of TA-HSB (n=19) n (%)	$\chi^2$ comparison of TA-HSB and dual HSB sub-group
Sent 'sext' (image) of themselves	Sent a self-generated nude/sexualised photograph(s) of themselves to another child/young person	14 (25%)	8 (38%)	6 (32%)	0.0, NS
Forwarded a 'sext' (image) of another child/young person	Forwarded a self-generated nude/sexualised photograph(s) of another child/young person to a different child/young person	4 (7%)	4 (19%)	0	NS (Fisher's Exact)
Indecent images of children offence (including imaged generated as a 'sext' and attempts to view/gain/ distribute indecent images of children)	This category includes images and movies of child sexual abuse/an indecent image of a child and youth produced sexual imagery (commonly referred to as a 'sext').	32 (57%)	18 (86%)	14 (74%)	NS (Fisher's Exact)
Making an indecent image of a child	This includes youth produced sexual imagery (a 'sext') and also the making of an original child abuse image or indecent image of a child (not including the legal definition where looking at an image constitutes 'making' one)	21 (38%)	11 (52%)	10 (53%)	0.0, NS
Possessing an indecent image of a child	The possession of an indecent image of a child which has been self-generated by the child/young person, sent to them as a 'sext', or is an indecent/abusive image of another child/young person.	32 (57%)	17 (81%)	15 (79%)	NS (Fisher's Exact)
Distributing an indecent image of a child	The distribution of an indecent image of a child which has been self-generated by the child/young person, sent to them as a 'sext', or is an indecent/ abusive image of another child/young person.	19 (34%)	14 (67%)	5 (26%)	6.5***

Type of TA-HSB	Definition	Prevalence of the behaviours among all TA-HSB cases (n=56) n (%)	TA-HSB only group (n=21) n (%)	Dual HSB sub-group of young males with various forms of TA-HSB (n=19) n (%)	$\chi^2$ comparison of TA-HSB and dual HSB sub-group
Swapping indecent images of themselves for indecent images of another child/young person	Swapping a self-generated indecent image of themselves for 'sexts' from other children/young people or for indecent or abusive images of another child/young person.	5 (9%)	3 (14%)	2 (11%)	NS (Fisher's Exact)
Persuading another child/young person to make indecent image or themselves/another person (including attempts)	Persuading, or attempting to persuade, another child/young person to make an indecent image of themselves (as a 'sext'), of another child/young person, or to record an image/movie of child sexual abuse.	7 (13%)	5 (24%)	2 (11%)	NS (Fisher's Exact)
Grooming (including potential cases)	Online/electronic contact between the child/young person and another child/young person for the purpose of preparing them for sexual activity. This includes potential grooming in cases where there was electronic contact between the child/young person and their victim prior to their perpetration of another form of TA-HSB but in which it was difficult to say that grooming was definitely involved due to a lack of information.	10 (18%)	4 (19%)	6 (32%)	NS (Fisher's Exact)
Attempting to meet up with someone they have groomed online		0	0	0	-
Sexual harassment/inciting sexual activity via messages	The child/young person were directly and explicitly attempting to incite online and/or offline sexual activity with another child/young person by sending electronic messages. It also covers cases of sexual harassment through electronic communications (text, email, etc.).	11 (20%)	5 (24%)	6 (32%)	0.3, NS

Type of TA-HSB	Definition	Prevalence of the behaviours among all TA-HSB cases (n=56) n (%)	TA-HSB only group (n=21) n (%)	Dual HSB sub-group of young males with various forms of TA-HSB (n=19) n (%)	$\chi^2$ comparison of TA-HSB and dual HSB sub-group
Showing another young person developmentally inappropriate pornography (including attempted)	The child/young person has exposed another child/ young person to pornography offline which is inappropriate for their age or developmental stage or would be classed as illegal/ extreme pornography. It does not encompass cases where the child/young person had forwarded indecent images of children using technology to another child/young person as this was instead classed as 'sexting'.	4 (7%)	0	1 (3%)	NS (Fisher's Exact)
Other****	Other form of TA-HSB which could not be classified into one of the above categories	12 (21%)	4 (19%)	6 (32%)	NS (Fisher's Exact)



## Appendix 6: Characteristics of the victims of the TA-HSB within the TA-HSB only group and the TA-HSB dual sub-group of young males with various forms of TA-HSB

This excludes those whose TA-HSB ‘only’ involved the developmentally inappropriate use of pornography.

		TA-HSB n (%)	Dual HSB sub- group of those with various forms of TA- HSB n (%)	$\chi^2$
Direct victim (%) <sup>1</sup>	Yes	(15) 71	(13) 72	NS (Fisher's Exact)
	No	(5) 24	(2) 11	
	Missing	(1) 5	(2) 17	
More than 1 direct victim (%) <sup>2</sup>	Yes	(7) 47	(5) 38	NS (Fisher's Exact)
	No	(7) 47	(6) 46	
	Missing	(1) 7	(2) 15	
Victim gender (%) <sup>2</sup>	Male	(2) 13	(2) 15	No analysis
	Female	(10) 67	(8) 62	
	Both	(1) 7	(1) 8	
	Missing	(2) 13	(2) 15	
Relationship to victim (%) <sup>2</sup>	Family member	0	(2) 15	No analysis
	Known non-family member	(12) 80	(6) 62	
	Stranger	0	0	
	Various	(1) 7	(1) 8	
	Missing	(2) 13	(1) 31	
Age of victim (%) <sup>2</sup>	Younger	(2) 13	(5) 39	No analysis
	Peer	(6) 40	(3) 23	
	Older	0	(2) 15	
	Various	(4) 27	(2) 15	
	Missing	(3) 20	(1) 8	
Involved an animal(s) (%) <sup>1</sup>	Yes	0	(3) 16	NS (Fisher's Exact)
	No	(20) 95	(16) 84	
	Missing	(1) 5	0	

Sample sizes vary according to the variable being analysed;

<sup>1</sup>TA-HSB (n=21), Dual TA-HSB sub-group (n=19)

<sup>2</sup>TA-HSB (n=15), Dual (TA-HSB; n=13)

Young males with missing data were excluded from chi-square analysis. Fisher's Exact test was carried out for 2x2 contingency tables where the cell count fell below 5.

## Appendix 7: Children and young peoples' use of indecent images of children

		TA-HSB (n=18) n (%)	Dual HSB sub-group of those with various forms of TA-HSB (n=14) n (%)	$\chi^{2**}$
How accessed indecent images of children (not limited to one method) (%)	Sent by someone	(10) 56	(4) 29	1.83, NS
	Self-searched	(8) 44	(8) 57	0.13, NS
	Self-produced	(11) 61	(10) 71	NS (Fisher's Exact)
	Accidental	(1) 6	0	NS (Fisher's Exact)
	Other	(4) 22	(1) 7	NS (Fisher's Exact)
	Unknown	(2) 11	0	No analysis
Some similarities across images (%)	Yes	(10) 56	(6) 43	NS (Fisher's Exact)
	No	(4) 22	(2) 14	
	Missing	(4) 22	(7) 50	
Image classification (%)*	Category A	(6) 33	(2) 14	NS (Fisher's Exact)
	Category B	(7) 39	(2) 14	NS (Fisher's Exact)
	Category C	(15) 83	(9) 64	NS (Fisher's Exact)
	Indecent image can't be categorised	0	(2) 14	NS (Fisher's Exact)
	Pseudo-photograph	(1) 6	0	NS (Fisher's Exact)
Gender of victim in the image (%)	All male	(2) 11	(2) 14	No analysis
	All female	(5) 28	(5) 36	
	Both	(5) 28	(2) 14	
	Missing	(6) 33	(5) 36	
Relationship to victim in the image (%)	Family member	0	(2) 14	No analysis
	Known non-family member	(5) 28	(3) 21	
	Stranger	(3) 17	(1) 7	
	Self	(4) 22	(3) 21	
	Various	(3) 17	(2) 14	
	Missing	(3) 17	(4) 29	
Age of victim in the image (%)	Younger	(1) 6	(4) 29	No analysis
	Peer	(4) 22	(2) 14	
	Older	0	0	
	Various	(9) 50	(3) 21	
	Missing	(4) 22	(5) 36	

\*Image classifications are as follows: Category A, penetrative sexual activity and images involving sexual activity with an animal or sadism; Category B, non-penetrative sexual activity; Category C, images not defined within category A or B such as sexual posing (see the Sentencing Guidelines Council, 2003).

\*\*Chi-square statistic is reported where possible but in some cases (where the cell count fell below 5) Fisher's exact test was carried out. Young males with missing data were excluded from chi-square analysis.

## Appendix 8: Comparisons of the developmental backgrounds and characteristics of the three groups of young males with HSB

### Demographic characteristics

		<b>TA-HSB (n=21) (n) %</b>	<b>Offline (n=35) (n) %</b>	<b>Dual (n=35) (n) %</b>	$\chi^2$
Ethnicity (%)	White British/ White other	(20) 95	(34) 97	(34) 97	No analysis
	Mixed	0	(1) 3	(1) 3	
	Unknown	(1) 5	0	0	
Learning difficulty/ disability (%)	Yes	(1) 5	(9) 26	(6) 17	No analysis
	No	(20) 85	(26) 74	(29) 83	
Described as intelligent/a high achiever (%)	Yes	(12) 57	(5) 14	(8) 23	10.02**
	No	(2) 10	(12) 34	(11) 31	
	Average intelligence	(4) 19	(6) 17	(9) 26	
	Missing	(3) 14	(12) 34	(7) 20	

\*\* $p < 0.01$ . Young males with missing data were excluded from chi-square analysis.

### Age of HSB onset and referral to HSB, escalation, and continuation of HSB

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	<b>F1</b>
Average age at onset of HSB		13.7	10.3	9.4	F(2, 84)= 23.9***
Average age at referral to the Turn the Page service		15.8	12.7	12.9	F(2, 88)= 24.30***
		TA-HSB (n=21)	Offline (n=35)	Dual (n=35)	$\chi^2$
Escalation in HSB (%)	Yes	(8) 38	–	(21) 60	No analysis
	No	(5) 24	–	(2) 6	
	Missing	(8) 38	(20) 57	(12) 34	
Continued TA-HSB following detection (%)	Yes	(7) 33		(15) 43	2.78, NS
	No	(13) 62		(10) 29	
	Missing	(1) 5		(10) 29	
Continued offline HSB following detection (%)	Yes		(17) 48	(23) 66	4.29*
	No		(16) 46	(7) 20	
	Missing		2 (6)	(5) 14	

\* $p < 0.05$ , \*\*\* $p < 0.001$ . NS= not significant.

<sup>1</sup>The ANOVA assumption regarding homogeneity of variance was violated and therefore Welch's F is reported. Young males with missing data were excluded from chi-square analysis.

## Living circumstances

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Currently living with biological parents (%)	Yes	(19) 91	(17) 49	(14) 40	14.44***
	No	(2) 9	(18) 51	(21) 60	
Not always lived in current placement (%)	Yes	(3) 14	(21) 60	(24) 69	16.72***
	No	(18) 86	(14) 40	(11) 31	
Had various different previous placements (%)	Yes	(2) 9	(18) 51	(15) 43	10.20**
	No	(19) 91	(17) 49	(20) 57	
Experienced parental divorce/separation (%)	Yes	(8) 38	(23) 66	(24) 67	12.46**
	No	(12) 56	(4) 11	(7) 20	
	Missing	(1) 5	(8) 23	(4) 11	
Early years/most of life spent in highly dysfunctional family (%)	Yes	(3) 14	(29) 83	(26) 74	34.92***
	No	(16) 76	(3) 9	(6) 17	
	Missing	(2) 10	(3) 9	(3) 9	
Known to social care (%)	Yes	(8) 38	(30) 86	(35) 100	–
	No	(12) 56	(3) 9	–	
	Missing	(1) 5	(2) 6	–	

\*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Young males with missing data were excluded from chi-square analysis.

Child maltreatment and bullying (including suspected and witnessed)

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Physical (%)	Yes	(1) 5	(18) 51	(19) 54	15.07***
	No	(19) 90	(15) 43	(15) 43	
	Missing	(1) 5	(2) 6	(1) 3	
Emotional (%)	Yes	(1) 5	(15) 43	(11) 31	9.13**
	No	(19) 90	(19) 54	(23) 66	
	Missing	(1) 5	(1) 3	(1) 3	
Neglect (%)	Yes	(2) 9	(13) 37	(22) 63	15.80***
	No	(18) 86	(21) 60	(12) 34	
	Missing	(1) 5	(1) 3	(1) 3	
Domestic Violence (%)	Yes	(3) 14	(29) 83	(30) 86	15.80***
	No	(17) 81	(5) 14	(5) 14	
	Missing	(1) 5	(1) 3	–	
Bullied (%)	Yes	(7) 33	(12) 34	(12) 34	0.01, NS
	No	(13) 62	(22) 63	(21) 60	
	Missing	(1) 5	(1) 3	(2) 6	
Sexual abuse offline (%)	Yes	(2) 9	(9) 26	(19) 54	11.79**
	No	(18) 86	(19) 54	(15) 43	
	Missing	(1) 5	(7) 20	(1) 3	
Sexual abuse online (%)	Yes	(6) 29	(1) 3	(1) 3	No analysis
	No	(15) 71	(26) 74	(28) 80	
	Missing	–	(8) 23	(6) 17	
Groomed online (%)	Yes	(6) 29	(1) 3	–	No analysis
	No	(14) 67	(17) 49	–	
	Missing	(1) 5	(17) 49	(19) 54	
Adversity (%)	Yes	(17) 81	(32) 91	(34) 97	No analysis
	No	(3) 14	(1) 3	(1) 3	
	Missing	(1) 5	(2) 6	–	

\*\* $p < 0.01$ , \*\*\* $p < 0.001$ . NS = not significant. Young males with missing data were excluded from chi-square analysis.

## Developmental characteristics

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Unresolved trauma (%)	Yes	(3) 14	–	(22) 61	17.54***
	No	(12) 57	–	(5) 14	
	Missing	(6) 29	(21) 60	(8) 23	
Mental health difficulty (%)	Yes	(7) 33	(22) 63	(26) 74	9.11**
	No	(13) 62	(10) 29	(9) 26	
	Missing	(1) 5	(3) 9	–	
Difficulty regulating emotions (%)	Yes	(9) 43	(26) 74	(27) 77	No analysis
	No	(4) 19	–	(2) 6	
	Missing	(8) 38	(9) 26	(6) 17	
Impulsivity (%)	Yes	(3) 14	(12) 34	(15) 43	No analysis
	No	(7) 33	(6) 17	(6) 17	
	Missing	(11) 52	(17) 49	(14) 40	
Overly angry/aggressive to selves (%)	Yes	(3) 14	(6) 17	(9) 26	No analysis
	No	(14) 67	(21) 60	(20) 57	
	Missing	(4) 19	(8) 23	(6) 17	
Overly angry/aggressive to others (%)	Yes	(9) 43	(24) 68	(28) 80	No analysis
	No	(7) 33	(2) 6	(2) 6	
	Missing	(5) 24	(9) 26	(5) 14	
Wider offending/anti-social behaviour (%)	Yes	(3) 14	(12) 34	(19) 54	7.26*
	No	(15) 71	(21) 60	(16) 46	
	Missing	(3) 14	(2) 6	–	
Substance misuse (%)	Yes	(3) 10	(3) 9	(2) 6	No analysis
	No	(15) 81	(31) 89	(33) 94	
	Missing	(3) 10	(1) 3	–	
Alcohol misuse (%)	Yes	(1) 5	(2) 6	(7) 20	No analysis
	No	(18) 86	(30) 86	(28) 80	
	Missing	(21) 9	(3) 9	–	
Sexual interest in children (%)	Yes	(6) 29	–	(5) 14	No analysis
	No	(9) 43	–	(13) 37	
	Missing	(6) 29	(23) 66	(17) 49	
Pornography use (%)	Yes	(16) 76	–	(25) 71	No analysis
	No	–	–	–	
	Missing	(5) 24	(29) 83	(10) 29	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . Young males with missing data were excluded from chi-square analysis.

## Parental characteristics and family relationships

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Quality of attachment with parent/main caregiver (%)	Positive	(12) 57	(11) 31	(5) 14	17.02***
	Negative	–	(7) 20	(8) 23	
	Mixed	(3) 14	(7) 20	(20) 57	
	Missing	(5) 28	(10) 29	(2) 6	
Parent/main caregiver's attitude towards child/young person (%)	Positive	(14) 67	(13) 37	(9) 26	6.89*
	Negative	–	(1) 3	(2) 6	
	Mixed	(3) 14	(7) 20	(12) 34	
	Missing	(4) 19	(14) 40	(12) 34	
At least one significant adult has their own problems (%)	Yes	(11) 52	(29) 83	(33) 94	No analysis
	No	(5) 24	(1) 3	(1) 3	
	Missing	(5) 24	(5) 14	(1) 3	
Protective factors identified before HSB (%)	Yes	(15) 71	(20) 57	(17) 49	No analysis
	No	(2) 10	(5) 14	(12) 34	
	Missing	(4) 19	(10) 29	(6) 17	
Parent showed healthy response towards HSB	Yes	(14) 67	(12) 34	(13) 37	7.29*
	No	(4) 19	(18) 51	(17) 49	
	Missing	(3) 14	(5) 14	(5) 14	

\* $p < 0.05$ , \*\*\* $p < 0.001$ . Young males with missing data were excluded from chi-square analysis.

## Friendships and social skills

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Friends offline (%)	Yes	(12) 57	(14) 40	(10) 29	No analysis
	No	(2) 10	(6) 17	(4) 11	
	A small amount	(5) 24	(14) 40	(16) 46	
	Missing	(2) 10	(1) 3	(5) 14	
Socially isolated to some extent (%)	Yes	(9) 43	(26) 74	(22) 63	8.77**
	No	(10) 48	(4) 11	(9) 26	
	Missing	(2) 9	(5) 14	(4) 11	
Good communication skills (%)	Yes	(13) 62	(20) 57	(21) 63	No analysis
	No	–	(5) 14	(3) 9	
	Missing	(8) 38	(10) 29	(10) 29	

\*\* $p < 0.01$ . Young males with missing data were excluded from chi-square analysis.

## Education

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Currently in education/ employment to some extent (%)	Yes	(16) 76	(32) 91	(31) 88	No analysis
	No	(5) 24	(3) 9	(3) 9	
	Missing	–	–	(1) 3	
Performing well in school (%)	Yes	(9) 43	(11) 31	(4) 11	7.46*
	No	(3) 14	(8) 23	(12) 34	
	Quite well	(3) 14	(10) 29	(13) 37	
	Missing	(6) 29	(6) 17	(6) 17	
Ever excluded/ suspended (%)	Yes	(8) 38	(8) 34	(14) 40	0.38, NS
	No	(8) 38	(12) 23	(12) 34	
	Missing	(5) 24	(15) 43	(9) 26	

\* $p < 0.05$  (comparing yes to no only). NS = not significant. Young males with missing data were excluded from chi-square analysis.

## Cognitive distortions and cognitions relating to the HSB

		<b>TA-HSB (n=21)</b>	<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Cognitive distortions or beliefs that minimise/ support HSB (%)	Yes	(11) 52	–	(13) 37	No analysis
	No	(4) 19	–	(5) 14	
	Missing	(6) 29	(19) 54	(17) 49	
Blame their victims to some extent (%) <sup>1</sup>	Yes	(6) 40	–	(9) 26	0.09, NS
	No	(6) 40	–	(13) 37	
	Missing	(3) 20	(18) 51	(13) 37	

NS = not significant. <sup>1</sup>In the TA-HSB group, n=15 young people with a direct victim. Young males with missing data were excluded from chi-square analysis.

## Denial and responsibility for the offline HSB

		<b>Offline (n=35)</b>	<b>Dual (n=35)</b>	$\chi^2$
Deny offline HSB to some extent (%)	Yes	(21) 60	(22) 63	0.01, NS
	No	(11) 31	(12) 34	
	Missing	(3) 9	(1) 3	
Accept responsibility for offline HSB to some extent (%)	Yes	(23) 66	(17) 49	1.22, NS
	No	(8) 23	(11) 31	
	Missing	(4) 11	(7) 20	

NS = not significant. Young males with missing data were excluded from chi-square analysis.



## Denial and responsibility for the TA-HSB

		<b>TA-HSB (n=21)</b>	<b>TA-Dual HSB (n=19)</b>	<b>Dual HSB sub- group with developmentally inappropriate pornography use (n=16)</b>	$\chi^2$
Deny TA-HSB to some extent (%)	Yes	(7) 33	(5) 26	(5) 31	0.003, NS
	No	(13) 62	(10) 53	(8) 50	
	Missing	(1) 5	(4) 21	(3) 19	
Accept responsibility for the TA-HSB to some extent (%)	Yes	(12) 57	(9) 47	(4) 25	No analysis
	No	(3) 14	(1) 5	(4) 25	
	Missing	(6) 29	(9) 47	(8) 50	

NS = not significant. Young males with missing data were excluded from chi-square analysis.

## Attitudes towards the victims of the TA-HSB

	<b>TA-HSB (n=15)</b>	<b>TA-Dual HSB (n=13)</b>
Feels empathy/has some insight	(3) 20	–
Lacks insight	(1) 7	–
Negative attitude/blames them to some extent	(3) 20	–
Mixed	(3) 20	–
Missing	(5) 33	(8) 62

## Attitudes towards the victims of the offline HSB

	<b>Offline HSB (n=35)</b>	<b>TA-Dual HSB (n=19)</b>	<b>Dual HSB sub- group with developmentally inappropriate pornography use (n=16)</b>	$\chi^2$
Feels empathy/has some insight	–	0	(2) 13	No analysis
Lacks insight	–	(5) 26	(2) 13	
Negative attitude/blames them to some extent	–	(1) 5	(2) 15	
Says they are lying/denies it	–	(4) 21	(1) 6	
Mixed	–	(1) 5	(1) 6	
Missing	(19) 54	(8) 42	(6) 38	

Young males with missing data were excluded from chi-square analysis.

Appendix 9: Dual HSB sub-group of young males with various forms of TA-HSB (excluding those with ‘only’ the developmentally inappropriate use of pornography; n=19): the characteristics of the victims of their offline HSB and TA-HSB victims and the victims in the indecent images they viewed

		<b>TA-HSB (n=13)</b>	<b>Offline HSB (n=19)</b>	<b>Indecent image (n=14)</b>
Victim gender (%)	Male	(2) 15	(1) 5	(2) 14
	Female	(8) 62	(8) 42	(5) 36
	Both	(1) 8	(7) 37	(2) 14
	Missing	(2) 15	(3) 16	(5) 36
Relationship to victim (%)	Family member	(2) 15	(4) 21	(2) 14
	Known non- family member	(6) 62	(3) 16	(3) 21
	Stranger	0	0	(1) 7
	Various	(1) 8	(11) 58	(3) 21
	Missing	(1) 31	0	(2) 14
Age of victim (%)	Younger	(5) 39	(8) 42	(4) 29
	Peer	(3) 23	(1) 5	(4) 29
	Older	(2) 15	0	(2) 14
	Various	(2) 15	(8) 42	0
	Missing	(1) 8	0	(3) 21