AN INVESTIGATION INTO REVENGE PORNOGRAPHY

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Thesis Abstract

The aim of this thesis was to contribute to the understanding and knowledge of revenge pornography behaviours. A systematic review, two empirical studies and a methodology and psychometric critique were undertaken to achieve this. An overview of the literature on revenge pornography is presented within chapter one, which clarifies its definition and the construct in which revenge pornography can be understood. In chapter two, factors associated with revenge pornography behaviours are systematically reviewed. Implications for intervention and research are highlighted in light of the findings. Chapter three critiques the methodology used within this thesis. It also examines the psychometric properties of the Experiences in Close Relationships questionnaire (Brennan et al., 1998) and the Reflective Functioning questionnaire (Fonagy et al., 2016), which were used in the empirical studies presented in chapters four and five respectively. Chapter four presents an empirical study exploring the attachment styles of revenge pornography perpetrators (n=529) and victims (n=312), while chapter five explores the mentalizing capacities using the same sample of revenge pornography perpetrators and victims. Although the studies in chapters four and five used the same sample, data was analysed separately. Chapter six presents a general discussion of this thesis, where the main findings from each individual chapter are consolidated, and theoretical frameworks are used to interpret and discuss the key findings of this thesis. Implications for future research and limitations of the thesis are also discussed.

Statement of Authorship

This thesis is submitted to the University of Nottingham in part fulfilment of the Doctorate in Forensic Psychology. The idea for the thesis was to investigate issues and gaps in the literature on revenge pornography and to also reflect the author's research interest in online sexual offending. This thesis was supervised by Professor Kevin Browne, Dr Elizabeth Paddock, and Dr Kathleen Green.

The findings from chapters four and five have been presented at the British Psychological Society's Division of Forensic Psychology Annual Conference.

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Chapter One: General Introduction to Thesis

1. Thesis structure

This thesis aims to add to the literature exploring online sexual offences, in particular the perpetration and victimisation of revenge pornography. In order to achieve this, this thesis comprises of six chapters: a systematic review, a methodology and psychometric critique, and two empirical research studies. This was to ensure that the topic was not explored through one lens, but rather through different lenses, for a better understanding of revenge pornography behaviours. Although, the chapters in this thesis are presented in sequences, they also stand as independent studies/chapters.

Chapter one introduces the literature on revenge pornography including definitions, prevalence of revenge pornography perpetration and victimisation, impact, and risks associated with revenge pornography behaviours, and theories of sexual offending, intimate partner violence, and revenge behaviours. This chapter is followed by chapter two, which includes a systematic review of thirteen papers, exploring factors associated with revenge pornography perpetration. Chapter three, a methodology chapter, details and critiques the methodology and psychometric tools used within this thesis. Chapter four includes an empirical study examining the gender differences, and the attachment styles of revenge pornography perpetrators and victims. Chapter five uses the same sample of revenge pornography perpetrators and victims to explore mentalizing capacities of such individuals. Finally, chapter six brings all the findings together to conclude this thesis.

Specific objectives of this thesis were:

1. To review the literature on factors associated with revenge pornography (Chapter 2).
2. To review the methodology and psychometric assessments used in chapters four and five, including its feasibility to accurately measure adult attachment styles and mentalizing capacities across different populations (Chapter 3)
3. To explore attachment styles of revenge pornography perpetrators and victims (Chapter 4).

4. To explore mentalizing capacities of revenge pornography perpetrators and victims (Chapter 5).

1.1. Revenge pornography

Revenge pornography is considered a form of image-based sexual abuse (IBSA) involving the creation and distribution of private, sexually explicit material (images or video recordings) of another person without their consent (McGlynn & Rackley, 2017). This includes content initially obtained (or recorded) with the consent of the person and with the intention of confidential use (Šepec, 2019). Others forms of IBSA include 'upskirting' and 'downblousing' (i.e. recording underneath another individual's clothes); 'voyeurism' (e.g. watching another person in a private act or a recording a person performing sexual acts during an online sexual encounter without consent); and 'deepfake pornography' (i.e. instances where technology has been used to alter pornographic content by adding another person's face; Corry, 2021; Henry et al., 2018; Marcum et al., 2021; Walker & Sleath, 2017). In extreme cases, IBSA has occurred from hacking into victims' computers or individual's social media account(s). Such cases, though widely publicised, are rare (Scheller, 2014). Nevertheless, revenge pornography behaviours have been subjected to social and legislative discussions (Henry et al., 2018; Henry & Powell, 2016).

Although, revenge pornography is not a new phenomenon, it has become a common practice. This is partly due to the advances of digital technologies (Gámez-Guadix et al., 2023). Historically, revenge pornography has been linked to leaked celebrity sex tapes or images of celebrities on holiday, occasionally leading to legal cases for defamation or invasion of privacy (Hayward & Rahn, 2015; Henry et al., 2020). Such practices have since expanded, with non-consensual content being distributed through social media platforms and messaging applications at alarming rates (O'Connor et al., 2018). Whilst revenge pornography is used to describe behaviours that occur within romantic relationships, it can be extended to other relationship contexts (Powell et al., 2018).

1.2. Definition

The term revenge pornography has been used interchangeably with terms such as 'image-based sexual abuse', 'technology-facilitated sexual violence', 'non-consensual dissemination of intimate information', 'online sexual abuse', 'abusive/ coercive sexting', 'online distribution of sexual images without consent', and 'non-consensual pornography' due to the lack of consensus on how to best conceptualise revenge pornography behaviours (Henry et al., 2020; Patel & Roesch, 2022; Šepec, 2019; Walker & Sleath, 2017). Researchers within the field have largely rejected the term 'revenge pornography'. This is because it emphasises that current or former partners exclusively commit such behaviours (Bothamley & Tully, 2017). Although, it is a common motivation for the behaviour, the term 'revenge' fails to consider other motivations for this type of abuse such as entertainment/enjoyment, social approval and validation, misogyny retribution, and sexual gratification (Hall & Hearn, 2017; McGlynn et al., 2019). The term 'revenge' also assumes that the victim has committed a wrongdoing for which the perpetrator has retaliated against (Bothamley & Tully, 2017). This has resulted in misconceptions about non-consensual acts and contributed to further stigmatisation of victims (Bates, 2017; Patel & Roesch, 2022). An example of this is reflected in the criminal case of Hunter Moor who was responsible for creating a website that hosted non-consensual material of celebrities. Although this case and using the term revenge pornography drew attention to the phenomenon, it also minimised the severity of the abuse (i.e., it was not perceived to be overtly harmful) and subsequently it was framed as a 'sex scandal', as opposed to a crime. As a result of this label, victims were heavily criticised for taking 'sexy selfies' (Marwick, 2017; Marwick 2021; Powell & Henry, 2017). Despite this, the term revenge pornography is applied throughout this chapter (and thesis) for several reasons. Firstly, 'revenge pornography' is the most popular term used to describe behaviours involving the non-consensual dissemination of private, explicit content, in the media and amongst researchers (Dymock & Van Der Westhuizen, 2019; Harper, et al., 2022). Thus, it was deemed important to use a term that the public are familiar with, in particularly as chapters four and five recruited participants from the general population. Secondly, the term 'revenge pornography' has been extensively used in public and popular discourses,

and legal discussions about (these this type of IBSA; Harper et al., 2019). Another reason is that the act of producing and disseminating non-consensual sexual content can be referred to as pornographic, because it transforms private content into public sexual entertainment (Hall, 2021; Holt & Liggett, 2020). Finally, there are limited thoughts on how such behaviours might be best defined as other terms have failed to fully encapsulate non-consensual acts (Henry et al., 2020; McGlynn et al., 2019). Although, some of the more recent and emerging literature has used the term 'image-based sexual abuse' to describe such behaviours, it might lead individuals to think they are 'abusing victims' which they might not agree with (Bothamley & Tully, 2017). Still, there remains a need to better recognise and define this type of abuse even if grouping non-consensual acts under a single term (such as revenge pornography) is understandable from a legislative standpoint, as captured under Section 33 of the Criminal Justice and Courts Act 2015 (Harper et al., 2019; Harper et al., 2021).

1.3. Prevalence

Establishing accurate prevalence rates of revenge pornography perpetration and victimisation is challenging due to methodological limitations. These include heterogeneous definitions and samples, measurement tools, and the time periods over which revenge pornography behaviours are measured (Henry & Powell, 2020; Patel & Roesch, 2022; Walker & Sleath, 2017). In addition, prevalence rates are based on victims' knowledge that their private content has been produced or shared (without their consent). Thus, it is possible that victimisation rates are underreported (Davidson et al., 2019; Powell et al., 2022). The figures reported may also be an under-representation of this phenomenon, due to the non-disclosure culture surrounding revenge pornography (Bothamley & Tully, 2018). Furthermore, prevalence rates do not reflect instances where technology has been used to alter pornographic content (Karasavva & Noorbhai, 2021). Consequently, variances in perpetration and victimisation prevalence rates have emerged (Patel & Roesch, 2022).

Revenge pornography is nevertheless an increasing phenomenon: the Crown Prosecution Service (2022) reported there were approximately 800 individuals charged with more than 1,000 revenge pornography offences between April 2020 and June 2022. The Revenge Porn Helpline (2022) reported an increase of 40% cases of victims between 2020-2021. This was thought to be linked to the extensive periods of social isolation for the COVID-19 pandemic and the increased accessibility and use of digital platforms to perpetrate abusive behaviours online during periods of extreme social isolation (Eaton et al., 2022).

Overall, perpetration rates have ranged between 5.12% (Ruvalcaba & Eaton, 2020) and 23% (Garcia et al., 2016). The most common self-reported revenge pornography behaviour is the distribution of pornographic or sexually explicit material of another person without their consent, with prevalence rates oscillating between 3.24% and 22.9% (Patel & Roesch, 2020). The prevalence for self-reported perpetration associated with threats have ranged between 0.24% and 5% (Patel & Roesch, 2020), and the prevalence rates for creating sexually explicit content of victims without their awareness has ranged between 8.8% (Powell et al., 2022) and 8.9% (Henry et al., 2019). These figures are comparable to the prevalence rates for victimisation, which have ranged between 0.8% (Fido et al., 2021) and 24.2% (Snaychuk & O'Neill, 2020). A recent study by Powell et al. (2022), covering Australia, New Zealand, and the United Kingdom, found that 1 in 3 participants had experienced at least one form of revenge pornography, with 1 in 5 experiencing threats to have intimate images or recordings shared online. These findings supported earlier studies, also conducted with Australian adults, which found that approximately one in five adults experienced a form of revenge pornography (Henry et al., 2017; Henry et al., 2019). Producing non-consensual content was found to be the most perpetrated form of abuse (Henry et al., 2017; Henry et al., 2019).

These figures are reflected across Europe. In 2020 in Ireland, it was reported that more than 140,000 explicit images were shared, leading to a petition to implement laws against revenge pornography practices online (Irish Examiner, 2020). Victims' ages have also varied with some reported be as young as 12-years old (Ridley et al.,

2015). In comparison to adults, adolescents are more likely to perpetrate this abuse (Eaton et al., 2017), though prevalence rates appear to increase with age (the Cyber Civil Rights Initiative, 2017). This may reflect the increased use of 'new technologies' by older adolescents, in comparison to adults (Vente et al., 2020). This is also consistent with research showing that older adolescents are at most risk of online sexual abuse and violence (Pedersen et al., 2023). Linked to this is the 'age-crime curve'; the assumption that offending behaviours increase during adolescence and peak around the age of 20 before declining (Shulman & Cauffman, 2014).

Gender differences are also reported for revenge pornography perpetration and victimisation. Perpetrators are more likely to be men (Mass et al., 2019), and women are twice more likely to be targeted by male than female perpetrators (Henry & Powell, 2015). Studies reporting data from five European countries found that males perpetrated significantly more than females in Bulgaria; while victimisation rates were significantly higher for females than males in England and Norway; no other significant differences were found (Stanley et al., 2018; Wood et al., 2015). In contrast, Powell et al. (2019) found victimisation rates for females and males to be similar. Other studies have found higher victimisation rates for males than females (Borrajo et al.,2015; Patchin & Hinduja, 2020; Walker & Sleath, 2017) while Walker et al. (2021) found no significant differences.

Differences in revenge pornography perpetration and victimisation have been found across cultures and ethnicities. Participants from black and ethnic minority backgrounds are more likely to report experiencing or perpetrating this abuse (Henry et al., 2020). Like other forms of violence, it is recognised that multiple structural inequalities can lead to sexual offending behaviours (Henry et al., 2021). The findings may also be indicative of higher rate of victimisation experienced within these communities (Boer et al., 2021).

In general, revenge pornography behaviours are most frequently perpetrated against a current (31.15%) or former romantic (39.75%) partner of the perpetrator (Ruvalcaba & Eaton, 2020); suggesting that perpetration may act as a method of

harassment or abuse within intimate relationships (Harper e al., 2021). Overall, the prevalence rates for revenge pornography perpetration and victimisation suggest that revenge pornography might be a frequent and pervasive practice for specific groups of the population (Powell et al., 2022). It is also possible that the increased use of, and advances in technology have and will continue to fuel revenge pornography behaviours (Davidson et al., 2019; Eaton et al., 2022).

1.4. Law

IBSA is covered by separate laws in the UK (McGlynn et al., 2019; McGlynn & Rackley, 2017). Revenge pornography specifically, is recognised as a criminal offence under Section 33 of the Criminal Justice and Courts Act 2015 (Crown Prosecution Service, 2015). It was amended by section 69 of the Domestic Abuse Act 2021 in June 2021 to include threats to share sexual content of another person without their consent (DeKeseredy & Schwartz, 2016; Henry & Powell, 2018). This covers both online (i.e., uploading or sharing content online) and offline behaviours (i.e., showing content directly from a phone), but overlooks instances where images have been digitally altered before being shared or situations where individuals have received threats to have intimate content shared from an anonymous perpetrator (McGlynn et al., 2019). As revenge pornography was criminalised on the 13th of April 2015, it can only be applied to offences that have occurred from this date onwards (Crown Prosecution Service, 2015). To be convicted, the alleged perpetrator must have intended to cause distress, humiliation, or obtain sexual gratification (Crown Prosecution Service, 2015, 2022). However, different motivations are reported for revenge pornography perpetration – as opposed to what is covered within the law that extends beyond the 'revenge' context (Bond & Tyrrell, 2021; Rackley et al., 2021). The law is nevertheless, in line with other forms of IBSA such as 'upskirting' offences, where it is only considered a sexual offence under the Voyeurism Offences Act 2019, if it is committed for the intention to humiliate (the victim) or for sexual gratification (McGlynn et al., 2019).

The sentencing for revenge pornography is guided by aggravating factors including the intention to cause distress to the victim/other person, planning of the offence

and perpetrator's ability to commit the offence. The impact to the victim is considered at three levels ranging from limited distress to serious distress caused to the victim (Crown Prosecution Service, 2018). This is a contrast to sentencing laws in Australia and Canada, who do not require evidence that the victim experienced psychological harm as a result of the abuse (Henry et al., 2020). Although revenge pornography is not considered a sexual offence by the law in England and Wales, it is viewed as a form of technology-facilitated sexual violence that operates like other forms of sexual violence, e.g. it is perpetrated for the purpose of humiliating/causing distress and exerting control and power over victims (Davidson et al., 2019). Revenge pornography is also considered to form part of a continuum of violent and abusive behaviours that initially occur offline (i.e., psychological, physical, and sexual abuse, sexual harassment, and stalking etc.) and extends to online behaviours, sometimes from the same perpetrator (Henry et al., 2017; Powell et al., 2020; Marganski & Melander, 2018; Ojanen et al., 2015; Reed et al., 2016). An example of this was highlighted in the case of a young female from Portsmouth who was threated, stalked, and had explicit content shared before she was murdered by a former partner (The Guardian, 2021). Despite this knowledge, the existing laws and literature is unable to adequately capture the complexity and severity of revenge pornography behaviours (Bond & Tyrrell, 2021; Harper et al., 2021). Consequently, revenge pornography behaviours have often overlooked. This is perhaps reflected by the low conviction rates in cases of revenge pornography (Henry et al., 2020). The low criminal convictions might also be linked to the lack of understanding of this abuse, in particular amongst police officers (Dodge & Spencer, 2018). Indeed, existing research advocates for further exploration of revenge pornography behaviours to ensure that more effective legalisation, policies, and interventions are implemented for individuals at risk of perpetrating this abuse (Henry & Powell 2016).

1.5. Internet

Revenge pornography is often perpetrated online (Henry et al., 2020). This is partly because digital platforms have provided individuals with a degree of anonymity to perpetuate such behaviours. (Henry et al., 2020). Indeed, it has long been recognised that anonymity disinhibits abusive behaviours online; a phenomenon described as

the online disinhibition effect (Joinson, 1998; Zhong et al., 2020). Online disinhibition occurs when individuals engage in online behaviours that they wouldn't necessarily exhibit in 'real life'. Specifically, benign disinhibition relates to individuals being more open and social within online contexts, whereas toxic deindividuation describes behaviours that involve harassing, abusing and threatening others online (Zhong et al., 2020).

Suler (2004) proposed six factors that make individuals susceptible to toxic disinhibition: dissociative anonymity, (when behaviours cannot be attributed to the individual); invisibility (the ability to shield from physical visibility); asynchronicity (actions that are not acted out in real time); solipsistic introjection (the absence of physical cues); dissociative Imagination (dissociation between online environments and real life); and minimisation of authority. It is possible that under these circumstances, violent and abusive behaviours are perpetuated that might not normally be acted out in 'real life' (Zhong et al., 2020). For example, sexual harassment- unwanted sexual and degrading comments, and unsolicited pornography- is a common practice on Internet forums and chat rooms that have very little restrictions or consequences for unidentifiable users (Mishna et al., 2023; Zhong et al., 2020). This is also evidenced in other forms of online abuse and violence including 'cyberbullying' (Barlett et al., 2016), 'trolling' (Nitschinsk et al., 2022) and 'online stalking' (Bowker & Gray 2004; Pittaro, 2007).

More recently, a trend has emerged online of so-called 'deep fake pornography' where users are able to create fake pornographic content (Ajder et al., 2019; Chesney & Citron, 2019). A cybersecurity company, Deeptrace found hat approximately 14,000 deepfake videos were available on the internet, with 96% of these videos targeting female celebrities. Deepfake websites have also been reported to attract approximately 134 million views (Ajder et al., 2019). The rise in deep fake media production is not surprising considering the accessibility and availability of software to produce fake and sexualised content of others (Harper et al., 2019). However, the motivations to produce deepfake media might be related to

a sexual desire to see intimate content of someone that is not available, as well as, a financial one (Harper et al., 2019).

The anonymity provided online might also explain the rise in 'slutpages', internet websites that encourage unidentifiable users to produce, share and trade non-consensual pornographic material of partners and other unknowingly victims, and subsequently engage in discussions about ways in which users can 'degrade' and 'abuse' their victims (Henry & Flynn, 2019; Maas et al., 2021). Glynn and Rackley (2016) found that 3,000 websites dedicated and promoted revenge pornography material, although this number is likely to be greater. Non-consensual explicit content is also widely available on mainstream pornography platforms accessed by a large number of people. Despite these platforms implementing policies against non-consensual material, such material continues to be easily and freely available, and organised into genres such as 'upskirting', 'hidden cam', 'leaked tape', 'homemade', 'ex', 'revenge porn' and other relevant terms (Henry et al., 2020). In the largest study to date exploring pornographic material available in mainstream pornography websites in the United Kingdom, it was found that 1 in 8 titles described sexual activity promoting sexual violence, including revenge pornography and other forms o IBSA (i.e., voyeurism and recordings of real sexual assaults) and that such material was frequently promoted (Vera-Gray et al., 2021). These findings suggest that revenge pornography practices, in addition to other forms of IBSA are normalised online, despite the policies and regulatory mechanisms in place to prevent this (Carrotte et al., 2020; Shor & Seida, 2019; Vera-Gray et al., 2021). The functionality and architectural design of these sites also enables easy access to non-consensual material. Henry and Flynn (2019) analysed a much broader array of sites that host revenge pornography material for a three-month period and found that majority of content was of women and was exchanged amongst male users. Platforms hosting revenge porn material have generally been found to predominately show content for male pleasure and the objectification of women (see Hearn & Hall, 2018; Henry & Flynn, 2019; Uhl et al., 2018).

Not only have technological advancements assisted in the commission of revenge pornography behaviours, but they have also fuelled other forms of IBSA and risky online behaviours such as sexting (Hu et al., 2023; Livingstone & Smith, 2014; Reyns et al., 2013). Sexting, the act of producing and sharing consensual explicit content, has been found to increase the dissemination of self-generated explicit images without consent (revenge pornography), and the creation and distribution of indecent images of children that is initially initiated from sexting (Crown Prosecution Service, 2013; Dodge & Spencer, 2018; Harder et al., 2019; Hu et al., 2023).

1.6. Revenge pornography and domestic violence/ intimate partner violence

Although violence and abuse in close relationships can range widely, there is evidence to support that the same elements that are involved in domestic violent cases are reflected in online sexual offending cases. This includes harassment, stalking (i.e., GPS tracking) impersonation of the victim, computer hacking, technology to access, monitor and control victims, and sharing private content (Hearn & Hall, 2022; Segrave & Vitis, 2017). The Office for National Statistics (2022) reported that around 90% of prosecutions for revenge pornography were 'domestic related' and included other forms of intimate partner violence. Similarly, Refuge (2020), a domestic violence charity, reported that in 2019 approximately over 70% of their service users were abused online. This included threats to have their intimate content shared. Women's Aid, another domestic violence charity, reported that approximately 85% of its service users experienced both offline and online abuse from a current or former intimate partner (Dean et al., 2023). As a result of this, revenge pornography has been considered to form an extension of intimate partner violence that includes psychological, physical, sexual violence and in some cases financial abuse (Hearn & Hall, 2022; Henry et al., 2020). There are also similarities in relation to how online and offline abusive cases are perceived, with a wide range of research (e.g., Attrill-Smith et al., 2021; Bothamley & Tully, 2017; Hadwin, 2017; Killean et al., 2022) showing that perpetrators of these types of abuses frequently place responsibility and blame onto victims whilst minimising the violence perpetrated. However, revenge pornography differs in that it can occur across different relationship contexts and for varied reasons. One reason being the intent

to damage a victim's reputation by presenting them as 'sexually promiscuous', 'naïve' and 'stupid' (Brown, 2018). This portrayal of victims has been found to fuel stereotypical beliefs, and reluctance amongst victims to seek support following victimisation (Eaton et al., 2023). In comparison to other forms of domestic abuse, revenge pornography may also last in perpetuity, since material posted online can be reproduced and shared (Henry et al., 2020). In addition, perpetrators of revenge pornography have the ability to remain anonymous and share content with no real consequences (Hearn & Hall, 2022).

1.7. Impact of Revenge Pornography

For some victims, the experience of having intimate content produced, shared, or threatened to be shared is considered a traumatic experience (Bates, 2017; Beechay, 2019; Kamal et al., 2016; Pedersen et al., 2023). For victims that have had their intimate images and videos circulated publicly using websites that are accessed by large groups of people, they have reported experiencing a number of symptoms including anxiety, depression, humiliation, shame, suicidal thoughts, and extended periods of isolation (see Bates, 2017). They have also expressed fear of private content re-emerging online (McGlynn et al., 2021). The isolation experienced following victimisation is often compounded by feelings of shame and humiliation. This has sadly led to suicidal attempts or suicides of victims (Bates, 2017). Such incidents have been referred to as 'sexting gone wrong' (McGovern et al., 2016).

Besides the psychological effects, this type of abuse has a profound impact on victim's professional lives (Henry et al., 2020). Non-consensual content uploaded online can be duplicated and continuously shared, and distributed to potential employers (Beechay, 2019; Murça et al., 2023). There are also accounts of victims needing to change their identity because they were harassed and stalked by strangers online and offline following the abuse (Bracewell et al., 2020; Stroud, 2014). In such cases, personal information about victims was shared alongside their intimate content. Unsurprisingly, the impact of revenge pornography on victims' mental health is suggested to be similar to survivors of sexual abuse (see Bates, 2017; McGlynn et al., 2017). Research has also found that victims are at an increased

risk of perpetrating the behaviours themselves, highlighting the issue of victim/perpetrator duality (Clancy et al., 2019; Karasavva & Forth, 2021; Powell et al. 2019; 2022; Walker et al., 2019).

1.8. Explanations for perpetration and victimisation

There are limited theoretical explanations for revenge pornography perpetration and victimisation, as this has not been explored in any great depth. As a result of this, theories of sexual offending, intimate partner violence (or domestic abuse), and revenge behaviours have been applied to understand the function and/or motivations for revenge pornography perpetration and victimisations (Davidson et al., 2019; Henry et al., 2020; Powell et al., 2019). Some of these theories are discussed below.

Social Learning Theory (SCT; Bandura & Walters, 1977) is built on the premise that behaviours, attitudes, and emotional responses are learned through observation, modelling, and reinforcement within social contexts. For children that grow up in violent and controlling environments, they tend to see the world as a hostile place (Li, 2022). This early exposure to violence increases the risk of children modelling the same behaviours in their own adult relationships and using violence as a way of managing conflict and social problems (Guerrero & Bachman, 2010; Sirriani, 2015). Related to this, is Attachment theory (Bowlby, 1969; 1973), which places equally importance on early attachment experiences between infants and primary caregivers. Considering revenge pornography behaviours are frequently committed against attachment figures (i.e., family members, friends, partners etc.), attachment and its relationship to revenge pornography practices appear to be relevant here.

According to Attachment theory, early attachment experiences influence the development of internal working models (IWM), about oneself, others, and relationships (Lyn & Burton, 2005; Marshall & Marshall, 2000). These early attachment experiences also influence how a child to learns to problem solve and manage their emotions (Fonagy et al., 2016; Hudson & Ward, 1997; Maloney et al., 2022). Through secure attachment, individuals develop positive IWMs and skills to

reflect, mentalize and problem solve (Bateman & Fonagy, 2016). In contrast, poor attachment experiences leave individuals with the inability to manage their emotions and respond to threat and social problems appropriately and effectively (Maloney et al., 2022). Thus, violent and sexually aggressive behaviours may be used to help regulate difficult emotions and the attachment system (Fonagy & Bateman, 2016; Maloney et al., 2022). These maladaptive coping strategies are particularly evidenced perpetrators and victims of sexual offences with poor attachment histories (Blagden et al., 2017). Like attachment theory, Mentalization-based theory highlights the importance of early relationships for the development of reflective and mentalizing capacities (Bateman & Fonagy, 2004). The development of these capacities is important for self-regulation and problem solving (Bateman & Fonagy, 2004). The inability to mentalize and manage emotions is thought to contribute to offending behaviours. Indeed, violent, and sexual offending often stems from difficulties mentalizing and regulating emotions, where emotions turn into offending behaviours (Sklyarov, 2020).

Poor early attachments and negative childhood experiences are also associated with cognitive distortions/deficits (Beck, 1963; Turner et al., 2022). Cognitive distortions-biased perspectives about oneself, others, and the world-have been observed in individuals with sexual offending histories and disrupted attachments (Ó Ciardha & Ward, 2013). These distortions have been found to motivate and maintain violent and aggressive behaviours in close relationships (Maftei & Dănilă, 2023). These include diffusion of responsibility; distortion of consequences; dehumanisation; blame attribution; and offence supportive beliefs (Pina et al., 2021).

Diffusion of responsibility typically occurs within large group contexts, where responsibility for actions/behaviours are diffused or misplaced (Maftei & Dănilă, 2023). This has been illustrated in cases of bullying (see Bjärehed et al., 2020). In online contexts this is referred to as the 'disinhibition effect' (discussed earlier in this chapter), when individuals engage in abusive behaviours online due to the perceived anonymity, invisibility asynchronicity, 'solipsistic introjection" (e.g., imagining it's all a 'fantasy'), dissociative imagination, (e.g., dissociation from reality) and the

minimisation of authority provided by digital platforms (Maftei & Dănilă, 2023; Zhong et al., 2020). Compliance to group norms, often out of fear of rejection or punishment from the group, can also contribute to this (Zhong et al., 2020).

Displacement of responsibility involves responsibility being displaced onto others, in the absence of authority (Maftei & Dănilă, 2023). In online spaces, the absence of authority has long recognised as a factor that disinhibits abusive behaviours (Zhong et al., 2020). Moral justification occurs when the behaviour is perceived to be morally and socially accepted (Maftei & Dănilă, 2023). An example of this is the extreme violence that is perpetrated by military personnel, which is perceived to be 'heroic' (McAlister et al., 2006). Likewise, online abuse is justified as expressions of humour or as free speech (Lipschultz, 2018). In the case of revenge pornography, the practice is justified as an appropriate response to a wrongdoing, typically by a partner (Clancy et al., 2019; Eaton et al. 2017; Gavin & Scott, 2019; Knieps & Hatcher, 2016). Distortion of consequences or the disregard for negative consequences is also relevant to revenge pornography where convictions for such practices remain low and there is an absence of punishment/legal consequences for those that perpetrate this abuse anonymously (Bond & Tyrrell, 2021; Clancy et al., 2019; Emezue, 2020).

Dehumanisation is another cognitive mechanism that fuels abusive behaviours (Pizzirani & Karantzas, 2019). Dehumanisation describes processes whereby victimised groups are perceived to be 'less humans' (Pizzirani & Karantzas, 2019). An example of this, is the words used to described victims of revenge pornography such as 'deviant', 'whore' and 'slut' (Bigirwa, 2020; Pavón-Benítez et al., 2022; Starr & Lavis, 2018). By doing this, it allows victims to be seen 'less than humans' and more like 'objects' (Pizzirani & Karantzas, 2019). This is reflected in instances where non-consensual content is exchanged as a form of illicit trade, with no consideration for victims (Henry et al., 2020). Finally, attribution of blame serves to blame victims of sexual and domestic violence (Maftei & Dănilă, 2023; Powell et al., 2019). In relation to revenge pornography, victims have historically been blamed for having their intimate content taken and shared (Bates, 2017; Burns, 2015; Powell et al., 2019).

There is also a tendency to hold victims of revenge pornography responsible for their own victimisation, in particular when it is assumed they have done something wrong or deserving of the offence (Clancy et al., 2019; Eaton et al. 2017; Gavin & Scott, 2019; Knieps & Hatcher, 2016). Victim blaming also serves to condemn and degrade victims for consensually producing content that is subsequently shared without their consent (Gavin & Scott, 2019; Knieps & Hatcher, 2016). Amongst police officers, revenge pornography is perceived as a 'crime of passion' (Millman et al., 2017). It is suggested that victim blaming is one of the primary factors that contribute to the underreporting of victimisation, in particular amongst women (Cecil, 2014; McGlynn et al., 2019). Female victims are generally judged more harshly for sending sexual content, whereas sending sexual content is seen more positively for males (March & Wagstaff, 2017). A reason for this is that it contradicts traditional views that women should be 'well-behaved'; thus, deserving of the offence (Bothamley & Tully, 2018; Starr & Lavis, 2018). Similarly, offence-supportive beliefs are used to justify or support offending behaviours, particularly following interpersonal conflict, and betrayals (Fincham et al., 2008). Motives specifically for revenge pornography behaviours have included the intention to hurt and cause harm to the other person, and/or in response to feeling hurt and betrayed (Civil rights, 2017; Eaton et al, 2017). These cognitive distortions are also reflected in Ward and Siegert's (2002) pathways model, which suggests that that emotional, intimacy, cognitive and arousal deficits contribute to contact sexual offending behaviours and reflected in the works/reviews of several researchers (see Beech, 2013; Elliott et al., 2009; Mann et al., 2002; Middleton et al., 2006; Osbourne & Christensen, 2020).

Dutton's (1988) 'Nested Ecological Model' takes more of a holistic approach to understanding violent and abusive behaviours in close relationships. It considers the interaction between various risk factors at four levels: macrosystem, exosystem, microsystem, and ontogenetic levels. The macrosystem/cultural level considers cultural and societal factors including values, norms, and beliefs, while the exosystem/socioeconomic level considers social structures such as friendships, family, employment, and an individual's support network. The microsystem/family level entails factors related to family including dynamics between family members,

conflict issues and abuse that takes place within the family. The ontogenetic/individual level incorporates factors related to the individual including their capacity to manage emotions, communication skills, and response to conflict, as well as their response to factors that occur across the exosystem and microsystem levels. This theory has been used to identity and organise risk and protective factors associated with offending behaviours (Dutton, 2012). Similar to attachment theory, it considers an individual's early experiences within the family and possible adverse childhood experiences (i.e., abuse) at the microsystem level.

The Problem Behaviour theory (BPT; Jessor, 1987) takes on a similar perspective to understanding social problems. It suggests that individual factors (i.e., age, personality functioning, self-esteem personal values etc.), environmental factors (peer pressure, family systems/structure/dynamics, childhood abuse) increase vulnerability to engage in risky behaviours (Donovan, 1996). Significantly, the BPT considers protective factors and risk factors for psychological formulations and interventions (Jessor, 1992; Jessor, 2001; Jessor & Jessor, 2016; Zamboanga & Carlo, 2006).

When considering personality traits specifically, some have been found to increase the vulnerability of sexual violence victimisation and perpetration, and revenge pornography proclivity (Brewer, et al., 2015; Carton & Egan, 2017; Jonason et al., 2017; Pina et al., 2017; Zeigler-Hill et al.,2016). For example, Pina et al. (2017) found that the dark triad personality traits (narcissism, machiavellianism, and psychopathy) increased revenge pornography proclivity. Dark personality traits are characterised by poor interpersonal skills, manipulation, lower empathy for others (Jonason & Krause, 2013), and impulsivity (Crysel et al., 2013; Jones & Paulhus, 2011). These difficulties often arise out of difficult childhood circumstances. Similarly, emotional difficulties (Barroso et al., 2021; Harder et al. 2019) and atypical sexual interests and behaviours evidenced in the sexual offending literature have been linked to revenge pornography perpetration (Boer et al., 2021; Clancy et al., 2019; Trendell, 2019). For example, the desire to avenge is associated with intense, painful emotions (McDonald & Asher, 2011; Rasmussen, 2013). Individuals that experience high levels

of anger are prone to engage in vengeful behaviours; perhaps as way of regulating emotions (Berry et al., 2005; Rasmussen, 2013; Sirianni, 2015). Emotions such as fear also appear to fuel uncertainty about potential retaliation/threat (from others), increasing the desire to avenge (Orth et al., 2008; Worthington & Sotoohi, 2010). Like the dark triad personality traits, it has been suggested that these difficulties might develop as a result of difficult childhood experiences, where individuals were not provided with opportunities to learn to regulate their emotions (Barroso et al., 2021).

A final theoretical explanation that has been expanded to explain different forms of sexual offending, including exhibitionism and voyeurism, is Seto's (2019) motivation-facilitation model. Briefly, this model suggests that offending is driven by 'motivators' and 'facilitators. Motivators refer to factors that constitute as a catalyst for sexual offending behaviours such as: atypical sexuality (i.e., paraphilia, sexual sadism, hypersexuality etc.); whereas facilitators include psychological factors (i.e., antisociality, dark tetrad personality traits, impulsivity, offensive supportive attitudes, beliefs, and values etc.); interpersonal difficulties (i.e., social isolation, loneliness, problems with maintaining relationships etc.); and state factors (i.e., alcohol). Interest in sexual offending in itself doesn't result in non-contact or contact sexual offending behaviours but increases the likelihood of such behaviours occurring in conjunction with the facilitation factors, as evidenced in various studies using clinical and forensic samples (e.g., Babchishin et al., 2015; Lalumière & Lalumiere, 2005; Seto, 2008; Seto, 2019).

In summary, the theoretical perspectives discussed in this chapter have highlighted the complex nature of sexual offending behaviours and other forms of abuse and revenge practices. Specifically, it has highlighted that social-cognitive variables (i.e., attitudes and beliefs; revenge driven behaviour) and personality characteristics (i.e., dark triad personality traits) are important to consider when attempting understanding sexual offending behaviours. Significantly, these frameworks agree that risk factors might develop as a result of disrupted early attachment; highlighting

the need have a better understanding of the role of attachment experiences/ (adult) attachment patterns in sexual offending.

1.9. Justification for thesis

As discussed throughout this chapter, theoretical explanations for revenge pornography perpetration and victimisation remain undeveloped in comparison to theories of sexual offending behaviours (Harper et al., 2021; Hearn & Hall, 2022; Henry et al., 2020). Whilst these theories provide some understanding of the psychological variables driving/ underpinning sexual offending behaviours, there remains limited theoretical explanations for revenge pornography perpetration and victimisation. Considering the growing nature of this phenomenon, there is a need to understand the function and motivation for revenge pornography behaviours (Hearn & Hall, 2022; Henry et al., 2020). This thesis takes a first step in this direction by providing a broad investigation into revenge pornography behaviours.

Chapter two: Factors associated with Revenge Pornography perpetration; a systematic review.

Abstract

Research into the revenge pornography has been largely dominated by qualitative studies examining public perceptions of this phenomenon and victim blaming. This systematic review aimed to synthesise the existing, though limited, literature exploring revenge pornography perpetration. A systematic search was undertaken using eight databases and relevant search terms. From these searches, thirteen articles were quality assessed and synthesised narratively. The findings showed that revenge pornography perpetration was associated with a number of factors including socio-demographic variables, attitudinal characteristics, sexting practices, victimisation, psychological characteristics, risky behaviours, and different motivations. Contradicting findings also emerged with regards to gender differences. The review considered the quality and limitations of the included studies such as the varied terminologies and methods used to define and assess revenge pornography behaviours. Implications for practice included targeting groups of the population that are at 'greater risk' of perpetrating this abuse, as well as, targeting attitudinal characteristics that have been empirically implicated in other forms of sexual offending behaviours. Factors associated with revenge pornography behaviours were also understood within frameworks of sexual offending behaviours, for a better understanding of how these factors might interact with one another to increase a vulnerability to offend.

Keywords: revenge pornography; perpetrators; systematic review.

2.Introduction

Revenge pornography is a form of image-based sexual abuse (IBSA) that involves the creation and distribution of explicit content (i.e., images or recordings) of another person without their consent (McGlynn & Rackley, 2017). The term is used interchangeably with other terms such as sextortion, technology-facilitated sexual violence, non-consensual dissemination of intimate information and non-consensual pornography (Henry et al., 2020). Revenge pornography is recognised as a criminal offence under Section 33 of the Criminal Justice and Courts Act 2015, in England and Wales (Crown Prosecution Service, 2015). Prevalence rates of revenge pornography perpetration are varied (12%- 23%; Garcia et al., 2016; Ruvalcaba & Eaton, 2020), with recent studies indicating an increase of revenge pornography offences during the COVID-19 pandemic (Davidson et al., 2019; Revenge Porn helpline, 2022). This increase in perpetration appears to reflect the increased accessibility and availability of online platforms to perpetrate online offences (Šepec, 2019). Although the term 'revenge' implies the behaviour occurs in response to a 'wrongdoing', revenge pornography behaviours can occur for different reasons and across different contexts (Powel et al., 2022).

Compared to other forms of image-based sexual abuse, revenge pornography is under researched (Patel & Roesch, 2020; Walker & Sleath, 2017). Research into revenge pornography has been largely dominated by qualitative studies examining public perceptions and victim blaming (see e.g. Bothamley & Tully, 2017; Fido et al., 2021). It is also frequently explored from a legal perspective (Phippen & Brennan, 2020) and through the media coverage of high-profile cases (Powell et al., 2017). However, the increased cases of revenge pornography is noted, as well as, the need to better understand the factors motivating/driving this type of abuse.

2.1. Existing systematic reviews

Two previous systematic reviews have been completed that examined variables of interest to the present review. Walker and Sleath (2017) completed a review of the literature on non-consensual sharing of sexually explicit media, focusing on perpetration and victimisation rates, demographic differences, and issues with the

implementation of revenge pornography legislation(s). Although the inclusion criteria were broad due to terminology issues within revenge pornography literature, only published articles were selected. Grey literature and unpublished research were neither accessed nor reviewed. Walker and Sleath (2017) concluded that perpetration and victimisation rates varied greatly across the included studies due to methodological limitations including varied definitions (of revenge pornography behaviours), heterogeneity of samples, and measures. Patel and Roesch (2020) also systematically reviewed literature on the prevalence of revenge pornography perpetration and victimisation, and associated health outcomes. They defined revenge pornography behaviours as technology-facilitated sexual violence. No further systematic review has examined revenge pornography practices.

2.2. Aims and objectives:

This systematic review aimed to identify and synthesise findings from studies exploring revenge pornography perpetration, due to an identified gap in the literature concerning perpetrators of revenge pornography. Examining these factors will help inform interventions and future research.

2.3. Method

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses; Moeher et al., 2009) guidelines were followed. The focus of this review was on any individuals that have perpetrated revenge pornography. Studies were eligible for inclusion if they included adolescents or adult perpetrators of revenge pornography behaviours (male or female). Studies that did not did not include a definition of revenge pornography nor explored perpetration were excluded. For the inclusion criterion illustrated in table 2.1.

2.1. Search strategy: sources of literature

A literature search was conducted in April 2021 and repeated in May 2022 to identity any relevant research in the previous 12 months. A three-step search strategy was applied to obtain all research, published or unpublished, concerning revenge pornography perpetration. Due to time constraints, articles written in

languages other than English were automatically excluded. The search strategies are outlined below:

A) **Primary search:** searches of electronic databases were completed between April 2021 and May 2022 on the following:
   - Cochrane Library
   - Campbell collaborations:
   - Ovid: PsycINFO
   - Ovid: MEDLINE
   - Ovid: PsycARTICLES
   - Web of Science
   - Proquest: ASSIA
   - SCOPUS

B) **Secondary search:** 'grey literature', e-theses websites and experts were contacted with the intention to locate unpublished literature. Out of three experts contacted, two replied and provided studies.

C) **Third search:** the final stage of the search strategy involved scanning reference lists of available literature and relevant systematic reviews in order to obtain relevant studies that had not already been captured.

2.2. Search strategy: search terms

The definition provided in chapter 1 for revenge pornography was applied to this review. This was to ensure it followed the term used to describe the behaviours captured under Section 33 of the Criminal Justice and Courts Act 2015 (Crown Prosecution Service, 2015). Briefly, revenge pornography behaviours include: (1) creating sexual images or videos without the consent of the other person; (2) distributing explicit content of another person without their consent; (3) threatening to share explicit content. Relevant search terms and synonyms were used based on the definition and/or any behaviours commonly associated with revenge

pornography or IBSA. The search strategy was not limited to any dates to ensure maximum scope and inclusion. A specific search syntax was applied for each database searched. A simplified example of the search term is provided below, and a list of the search terms is found in appendix A.

(Sext* OR Revenge Porn OR Sex* Photo* OR Sex* Imag* OR Image based sex* OR Private image* OR Share sexual imag* OR Hack* image* OR Non-consensual shar*)

2.3 Study selection

Studies were screened using a pre-defined inclusion and exclusion criteria, summarised in table 2.1. Studies that met the inclusion criteria were selected for further quality assessment.

Table 2.1: Inclusion criteria

	Inclusion criteria
Population	• Adolescent or adult • Any gender, sexuality, nationality, and ethnicity. • Must have perpetrated a form of revenge pornography (taking, sharing, or threatening to share non-consensual explicit content) or have a current or historic conviction for revenge pornography. • No restrictions on type of setting (i.e., forensic, clinical, community and custody settings).
Exposure	• Clear definition of revenge pornography behaviours examined. • Must have examined motivations, characteristics, risk factors associated with revenge pornography perpetration. • Studies will not be limited to any measurement method or risk assessment tools.
Comparator	• Studies unlikely to include a comparator. If possible, victims or a non-offending sample.
Outcome	• Factors associated with revenge pornography perpetration such as but not limited to) gender, age, sexuality, attitudes, sexual

	behaviours etc.
Study design	• Quantitative studies (i.e., cross-sectional, cohort and case-control studies) only. • Descriptive methodology and statistics to determine relevance of characteristics.
Additional criteria	• Studies may be conducted in any country but needs to be published in English. • Eligible studies may be either published or unpublished (i.e., academic thesis).

2.4 Quality assessment

Quality assessment was completed using an adapted quality assessment checklist based on the Critical Appraisal Skills Programme (CASP; 2013) and the British Medical Journal (BMJ) Appraisal Tool for Cross-Sectional Studies (Downes et al., 2016). The checklist assessed the quality of each study selected for inclusion following a full text review. A number of areas and risks of bias domains were examined including study aims; definition of revenge pornography; variables examined; inclusion and selection bias; performance bias; measurement bias; attrition bias; and the quality of results reported. The latter domain ('quality of results') was determined by whether the findings were supported by other available literature. See appendix C for the adapted quality assessment form.

Within the quality assessment checklist, each item considered was coded Yes (Y), Partial (P), No (N), or Unclear (U). If the information required to decide was unclear or not included in the study, this was marked as 'unclear' as opposed to 'no, in order not to underestimate the quality of the research. Although the CASP and MBJ framework does not include a scoring system, numerical scores and percentages were used to compare quality between studies. Studies were then categorised as having low quality (0-29%), moderate quality (30-69%) or high quality (70-100%). The author assessed the quality of all included studies and 20% of the included studies

(n=3) were re-examined independently, using the same checklist to ensure inter-rater reliability.

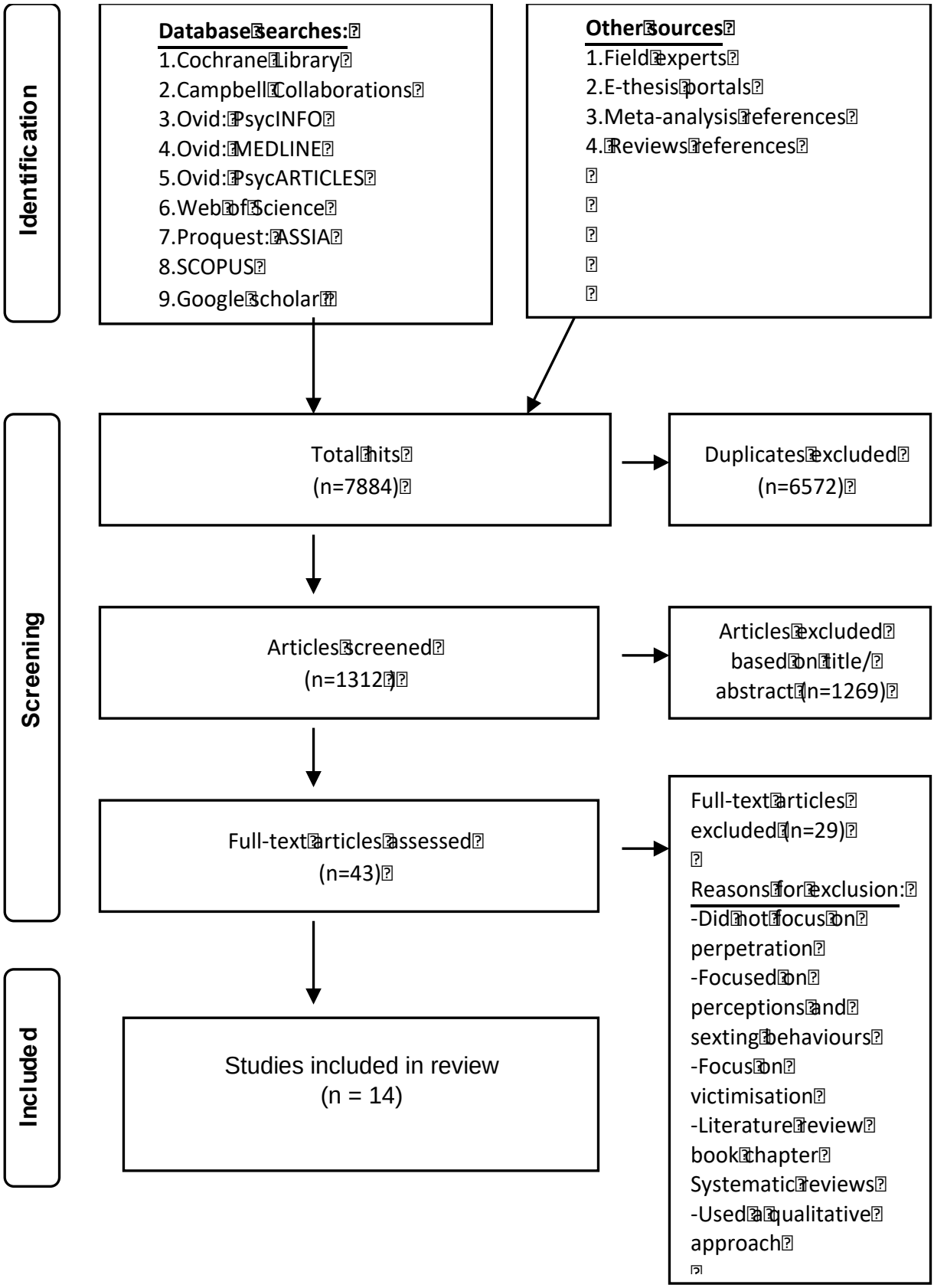
2.5 Data extraction

The data was extracted (from the included studies) using a pre-defined template (see appendix B). Extracted data included recruitment (sample size, recruitment and data collection methods), participant information (age range, gender, ethnicity, and any other relevant demographic information), publication characteristics (publication format and year of publication), and findings and conclusions (statistical analyses, limitations, and strengths).

2.6 Results

The full search yielded 7884 'hits' across all databases. 6572 duplicates were removed, with a further 1269 irrelevant publications excluded after titles and abstracts were scanned for relevance. This resulted in just 43 relevant publications, which were imported into Endnote. Two experts in the field sent 3 studies, which were duplicates of studies already imported. 29 articles were excluded for not meeting the inclusion criteria. Main reasons for exclusion included: publication used qualitative design; did not include revenge pornography perpetration; publications only focused on perceptions of revenge pornography or sexting behaviours; were systematic reviews/discussion/book chapters. The search resulted in 13 studies for quality assessment screening, with all the 13 studies being included in the review. Three studies included in Patel and Roesch's (2020) systematic review were also included in this review (Clancy et al., 2019; Morelli, 2016; Walker et al., 2019). The remaining studies were published after the reviews or not included for unknown reasons. See figure 1 for search results.

Figure 1: Search results



3.1. Characteristics of included studies

All studies were published between 2016 and 2022, reflecting an increased interest exploring this type of abuse and the introduction of laws against revenge pornography offences across Europe and the USA (Henry et al., 2020). The countries that the studies originated from were worldwide: Canada (2 studies); USA (2 studies); Australia (2 studies); Italy (1 study); UK (1 study); Netherlands (1 study); Switzerland (1 study); Portugal (1 study); and Denmark (1 study). Only one study used a sample of adults living in the UK, Australia, and New Zealand (Powell et al., 2022).

The total sample size considered within this review was 110,519. The sample size within each study was generally large, with sample sizes ranging between 391 (Walker et al., 2019) and 61,289 (Harder et al., 2019). Only one study fell below the recommended sample size but reported power calculations indicating that the sample size was appropriate for the measures and statistical analyses used (Walker et al., 2019). All participants within the selected studies perpetrated (at least one form of) revenge pornography behaviours.

The age range for participants was 12 to 97 years. Majority of the studies were completed on student populations (secondary/high school, college, or university; n=65,888; Harder et al.,2019; Karasavva & Forth., 2021; Maas et al.,2021; Morelli et al., 2016; Walker et al., 2019). Two studies recruited students and members of the public (Boer et al., 2021; Trendell, 2019). One study was carried out on Portuguese adolescents accessing a violence prevention programme (Barroso et al., 2021). The remaining studies drew participants from community populations (Barrense-Dias et al., 2020; Clancy et al., 2019; Eaton et al., 2017; Powell et al., 2019; Powell et al., 2022). All studies sampled female and male participants. Ethnicity demographics were reported for nine of the included studies (Barrense-Dias et al., 2020; Boer et al., 2021; Clancy et al., 2019; Eaton et al., 2017; Karasavva & Forth, 2021; Maas et al., 2021; Powell et al., 2022; Trendell et al., 2019; Walker et al., 2019). The ethnicity of participants varied across the included articles, with most articles reporting multiple ethnicities within their sample.

All studies used a quantitative approach. As expected, definitions and of revenge pornography behaviours were varied. However, it was generally defined as the distribution, production, or threat to share explicit images or videos of another person without their consent. Different forms of revenge pornography behaviours were investigated, with all studies investigated at least one form of revenge pornography. Two studies considered all forms of revenge pornography behaviours (assessing each form of perpetration independently; Powell et al., 2019; Powell et al., 2022). One study examined revenge pornography perpetration with other forms of online dating abuse (Morelli et al., 2016). Methods used to perpetrate revenge pornography behaviours included online forums and image-based mobile messaging applications. For one study, non-consensual explicit content was also shown directly from a phone (Barrense-Dias et al., 2020). All studies except one (Harder et al., 2019) measured perpetration across participants' lifetime. Harder et al (2019) restricted perpetration to a time frame (i.e., 'within the last 12 months'). All studies had similar aims, which was to explore variables that predicted/motivated or increased the likelihood of revenge pornography perpetration.

A number of variables were examined in relation to revenge pornography perpetration. These included: sociodemographic variables, attitudinal characteristics, sexting behaviours, victimisation, psychological characteristics, risky behaviours, and a range of motivations. See table 2 for a summary of the included studies.

Table 2.2: summary of included studies.

Study no	Author(s), year of publication and country.	Aims and objectives	Revenge pornography definition and format	Sample and recruitment	Methodology and analyses	Key findings	Quality category (%)
1	Barrense-Dias et al. (2020), Switzerland	To explore characteristics and motives for non-consensual sharing of private images.	"Sharing (forwarding or showing) a sexy photograph/video of someone else (known or unknown) without consent"	*N= 5175* Age: 24-26, M= 26.3 Gender: 49% identified as female and 51% as male. Sexual orientation: 16.8% identified as non-heterosexual. Ethnicity: 11.4% identified as being 'foreign'. Recruitment: Sample provided by Federal Statistics Officer-participants we invited to participate via post including link to access	Design: cross-sectional Data collection and measures: self-reported questionnaire/survey related to demographic/ personal characteristics (i.e., birthplace, place of residence, education level, family socioeconomic status, sexual orientation and perceived puberty onset). Analysis: Bivariate analyses were completed using Chi-square and ANOVAs for continuous variables (associated with perpetration). Significant variables were analysed using a multinomial regression. Analyses were conducted overall and by gender.	• 15% of participants reported sharing sexually explicit images of someone with their consent at one point 6% of participants had shared images once and 9% of participants had shared images several times. • Males were more likely to have shared images (21%) compared to females (9%). Males were also more like to have had private images shared with them (16%) compared to females (6%). • Compared to the 'never' perpetrated group, participants that shared images had higher odds of being male (RRR:1.66), foreign-born (RRR: 1.45), identifying as non-heterosexual (RRR: 1.46), reporting lower levels of education (RRR: 1:24), having engaged in sexting behaviours (RRR:1.76) and having received non-consensual images of someone they did not know (RRR: 2.76). • In the gender-differentiated analysis, compared to females in the 'never' perpetrated group, female participants that shared images once had higher odds of reporting lower levels of education (RRR: 1:53) and having received non-consensual image of someone they did not know (RRR: 2.30). Compared	**Moderate (68%)**

				questionnaire.	Results were given as relative risk ratios (RRR) and/or Odd rations (OR).	to the 'never' group, female participants that shared images several times, had higher odds of reporting low levels of education (RRR:1.69), identifying as non-heterosexual (RRR:2.00), and having received a non-consensual image of someone they did not know (RRR: 3.66). • Compared to males in the 'never' group, male participants that shared images once had higher odds of having engaged in sexting behaviours (RRR:1.60). Male participants that shared images several times had higher odds of being foreign-born (RRR:1.52), having engaged in sexting behaviours (RRR: 2.00) and having received a non-consensual image of someone they knew (RRR:2.70) or a stranger (RRR: 4.98). • Non-consensual images were mostly shown directly from a phone device (78%). • Motivations for sharing images included: for 'fun/enjoyment' (62%); 'showing off' (30%); and being unaware of consequences (9%). • Compared to female participants, male participants had higher odds of sharing images to 'show off' (OR:4.94). Female participants had higher odds of sharing images for friends' advice (OR=0.69). • Participants that shared images several, compared to those that only shared images once, were more likely to have reported doing it for 'fun' (OR=1.49) and amongst friends (OR=1.21). For participants that shared images once compared to those that shared	

						several times, they were more likely to have reported being unaware of the consequences of their behaviour (OR=0.68).	
2	Barroso et al. (2021), Portugal	To identify the prevalence and variables associated with abusive sexting perpetration and victimisation.	"Sending sexual pictures of another person, without their consent, or experiences cybervictimization because sexually explicit pictures or videos of themself were shared online with other people without consent".	*N*= 4,281 Portuguese adolescents Age: 12-20 years, M=14.51, *SD* = 1.83; 33.8% were 12-13 years, 48.1% were 14–16 years, and 18% were in between 17-20 years. Gender: 47.1% identified as a boy and 52.9% as a girl. Socioeconomic status:28.4% were from working class and 71.6% from middle- or upper-class background. Recruitment: sample recruited from Interpersonal Violence Prevention Program in Portugal. Data was collected prior to	Design: cross-sectional Data collection: online survey Measures: Inventory of callous-unemotional traits (Essau et al., 2006; Portuguese version by Pechorro et al. (2014). Youth Self Report (Achenbach & Rescorla, 2001; Portuguese version: Gonçalves et al., 2007). Childhood trauma questionnaire [Bernstein et al., 2003; Portuguese version by Dias et al. (2013). Reactive-proactive aggression questionnaire (Raine et al., 2006; Portuguese version by Pechorro et al., 2017). Buss–Perry aggression	• 4.8% participants reported sharing an explicit image of another person without their consent. • Boys were more likely to share images (70.1%; *n*=143) compared to girls (29.9%; *n*=61). Adolescents aged 14-16 were more likely to share images (56.86%; *n*= 116) when comparing to adolescents aged 13 years old (22.55%; *n*=46). • A significant association was found between perpetration and victimisation, $\chi^2(1) = 132.15$, $p < 0.001$. • Perpetrators had significantly higher levels of social problems; anxiety and depression; callousness traits; higher levels of aggressiveness and frequent instances of proactive and reactive aggression (whereby they self-reported being more physically and verbally aggressive, angry and hostile); low levels of uncaring traits; and significantly reported more experiences of emotional abuse, emotional neglect, sexual abuse and physical neglect in childhood). • No significant associations between family socioeconomic status, parents' marital status (single/separated vs. married) and image sharing.	**High (75%)**

				intervention.	questionnaire-short form (Buss & Perry, 1992; Bryant & Smith, 2001; Portuguese version by Pechorro et al. (2016) Analysis: Frequencies and chi squares analysed perpetration and victimization in relation to demographic variables. T-tests analysed differences between perpetrators vs non-perpetrators, and victims vs non-victims.		
3	Boer et al.(2021) Published, Netherlands	To examine and correlates of non-consensual sexting behaviours.	"sent a nude image or sex-video of someone else (without consent)"	N=20,834 Dutch participants Age: 12-24 years old Gender: 60.7% identified as female and 39.3% as male. Sexual orientation: 96.1% identified as heterosexual and 3.9% as homosexual or bisexual. Ethnicity: 85% identified	Design: cross-sectional Data collection: Self-reported questionnaires related to demographic information, sexual and online experiences/use and sexting behaviours. Measures: Kessler Psychological Distress Scale (Kessler et al., 2022; Fassaert et al., 2009) Analysis: complex sample,	• 4.2% of participants reported sharing sexual image or video of someone else with their consent in the previous six months. • Male participants were almost three times more likely to share non-consensual content than female participants (OR=2.69; 95% CI: 2.27–3.20). • 15-17-year-olds were more like to have shared content compared to 12-14-year-olds (OR = 1.89; 95% CI: 1.45– 2.51). • Sharing non-consensual content was higher for participants from a non-western background (OR=1.41; 95% CI: 0.99– 1.92); a Surinamese background (OR = 1.63; 95% CI: 0.96– 2.46), and an Antillean background (OR = 2.30; 95% CI: 1.13–3.70), compared to those with a Dutch or Western	**High (83%)**

				being from a Dutch/Western background and 15% from an ethnic minority background. <u>Recruitment:</u> sample was recruited from schools and a register by Statistics Netherlands.	logistic and multivariable regression.	background. Participants from a Moroccan and Antillean background were therefore twice more likely to share content than those from a Dutch or Western background. • Participants living in urban-rural areas compared to those in rural areas, where more likely to share content (OR= 1.43; 95% CI: 1.13-1.79). • Non-consensual sharing was lower for participants with 'higher education' levels compared to participants from a 'less educated' background (OR= 0.69; 95% CI: 0.58–0.80). • Participants were more likely to share content if they watched online pornography compared to those that did not (OR=2.68; 95% CI: 2.00– 3.67). • Higher likelihood of sharing for participants that spent more than 3 hours accessing social media compared to those that spent less than an hour online (OR=2.87; 95% CI:2.04–4.42). • Perpetration was most strongly associated with historic revenge pornography victimisation (OR= 4.31; 95% CI: 3.32–5.55). • Participants regularly engaging in sexual intercourse with partners were more likely to share non-consensual content than participants that did not (OR=3.64; 95% CI:2.67-5.13). • Non-consensual sharing was higher for participants that were online dating compared to those that were not (OR= 1.44; 95% CI: 1.20-1.74). • Higher levels of psychological distress was associated	

						with perpetration (OR=1.31; 95% CI:1.07-1.67). • School based sexting education was not significantly associated with perpetration.	
4	Clancy et al. (2019) Published, Australia	To explore factors predicting dissemination of consensual and non - consensual sexts.	"non-consensual dissemination encompasses behaviours that might be described as revenge pornography, also referred to as involuntary…..or non-consensual pornography"	N= 505 Australian adults Age: 18–55 years M = 20.6, SD = 3.1 Gender: 66.9% identified as female, 31.5% as male, and 1.4% did not disclose. Ethnicity: 92.1% identified as Australian and 7.9% identified as being from an ethnic minority background. Sexual orientation: 78% identified as heterosexual, 4.2% as homosexual, 12.7% as bisexual, 4.4% as other and 0.8% did not disclose. Sexual behaviours: 82% reported being	Design: cross-sectional Data collection: online survey Measures: 'Dirty Dozen' brief tool (Jonason & Webster, 2010) Analysis: chi-square.	• 18.6% of participants disseminated content of another person without their consent. • No significant differences in dissemination between genders and ages. • Participants that were sexually active (17%) compared to those that were not (1.6%) were more likely to disseminate content, $\chi 2$ [505] = 7.1, p = .008. • Disseminating content was also associated with being sexually active at a younger than older age (M=15.9, SD = 0.7; not disseminated M= 16.7, SD = 1.9, t [412] = 3.6, p < .001, d = 0.43. • Participants that received non-consensual content were more likely to disseminate content (received content= 29.4%; did not received a content= 12.8%, $\chi 2$ [505] = 20.8, p < .001. • Motivations for perpetration included: 'not a big deal' (47.8%; n=45); 'it's a joke or funny' (30.8%); 'for attention/praise' (15.9%; n=15); 'to increase social status' (15.9%; n=15); 'was asked to do it' (13.8%; n=13); 'peer pressure' (8.5%; n=8); 'to get recipient in trouble (6.3%; n=6); other/not specified (35.1%; n=33). • Males were more likely to self-report dissemination non-consensual content to enhance their social status (40.7%) compared to females (5%), χ (1) =	**Moderate (68%)**

				sexually active, and 16.5 years (SD = 1.9) was the average age of first sexual intercourse. <u>Recruitment:</u> participants were recruited online and via university campuses.		19.0, p < .001. • Significant effects were found for disseminating non-consensual content, gender, and attitudes: F (7, 488) = 10.2, p < .001, ηp2 = 0.13, gender, F (7, 488) = 5.5, p < .001, ηp2 = 0.07, and their interaction, F (7, 488) = 3.2, p = .002, ηp2 = 0.04. Participants that disseminated content agreed more strongly that it was not 'a big deal'; that it was 'funny'; non-consensual content is usually seen by others beyond the intended recipient (acceptance that it is normative); that it enhances social status, and acceptable following relationship breakdown. • Significant effects were also found disseminating non-consensual content, gender, and dark triad personality traits: F (3, 492) = 4.6, p = .003, ηp2 = 0.03, gender, F (3, 492) = 4.1, p = .007, ηp2 = 0.02, but not their interaction, F (3, 492) = 0.5, p = .987. Participants who disseminated non-consensual contented scored higher on traits of Machiavellianism, psychopathy, and narcissism. Males compared to females scored higher on Machiavellianism and psychopathy. • Being sexually active (OR = 2.9, 95% CI: 1.3–6.7), receiving non-consensual content (OR = 2.0, 95% CI: 1.2–3.4), acceptance of perpetration (that is usually seen by others; OR = 1.3, 95% CI: 1.0–1.7), and that disseminating non-consensual content is funny OR = 1.5, 95% CI: 1.2–1.9) were all predictors/ increased likelihood of perpetration.	
5	Eaton et al.	To examine	"distribution of	N= 3,044 American	<u>Design:</u> cross-sectional	• 12.8% of participants self-reported engaging in NCP.	Moderate

	(2017), Published, USA	prevalence rates, motives and impact of non-consensual pornography (NCP) perpetration and victimisation.	sexually graphic images of individuals without their consent".	adults Age: 18-97 years, *M*=40.31, *SD*= 19.02 Gender: 53.8% identified as female and 46.2% as male. Ethnicity: 82% identified as being Caucasian, 2% as Hispanic, 1.3% as African American, 1.2% as Asian, 0.8% as Native American, 0.3% as Middle Eastern, 0.7% Native Hawaiian, 8.2% as multiple ethnic backgrounds and 3.4% identified as 'other'. 0.4% did not disclose/information was missing. Sexual orientation: 70.4% identified as being heterosexual, 7.5% as gay or lesbian, 16.5% as bisexual 5.7% as other and 0.2% did not disclose	Data collection: online survey. Measures: self-developed questionnaire for experiences of NCP perpetration and victimisation (including motives and impact). Analysis: descriptive statistics, subgroup analysis	• 5.2% shared a sexually explicit picture of another person without consent. • Male participants were more likely to engage in NCP perpetration (7.4%), in comparison to female participants (3.4%). • Participants aged between 18-25 years had the highest levels of NCP perpetration (8.2%), in comparison to other age groups: 26-33 years (3.8%); 34-41 years (5.6%); 42-49 years (4.5%); 50-57 years (5.4%); 58-65 years (1.4%); 66-73 years (2.5%); 74-97 years (3.1%). • Motives for NCP perpetration included: sharing amongst friends with no malice (79%); for 'fun' (16%); in response to interpersonal transgressions (11%); Gloat/proud (7%); increase social media presence (4%), ruin their life (0.6%); and following relationship breakdown (0.6%).	(50%)

				/information was missing. Recruitment: participants were recruited using social media advertisements			
6	Harder et al. (2019), Published, Denmark	To explore association between poor self-control, alcohol and sexual activity and image-based sexual abuse (IBSA) perpetration.	"shared a sexual image/video of others within the last 12 months, e.g. in their underwear or nude, without their consent"	N= 61,289 Danish adolescents and young adults in education. Age: 12-25 years, *M*=15.7, *SD*=0.18 Gender: 47.3% identified as male and 52.7% as female.	Design: cross-sectional Data collection: Self-reported questionnaires Measures: Brief Self-Control Scale (Tangney et al., 2014) Analysis: Logistic regression	• 3.4% of participants shared sexual content of another person without their consent in the previous 12 months. • Male participants were almost three times more likely to share non-consensual content than female participants (OR= 2.90; 95% CI: 2.57-3.27) even when controlling for differences for other variables (i.e., self-control, drinking and online/offline sexual behaviours). • Likelihood of sharing non-consensual content increased with age (OR= 1.10; 95% CI: 1.07–1.13). • Unsafe sex increased the likelihood of perpetration by 1.9 times (OR=1.88; 95% CI:1.58-2.24); sexting increased likelihood of perpetration by approximately four times (OR=3.95; 95% CI: 3.53-4.42); binge drinking increased the odds by 1.6 times; and receiving non-consensual images increased likelihood of perpetration by almost thirteen times (OR=12.72; 95% CI: 11.33-14.27).	**Moderate (68%)**
7	Karasavva & Forth (2021), Published,	To examine the personality,	"Non-consensual intimate image	N= 810 Canadian undergraduate students Age: 16-20, M=20.08,	Design: cross-sectional Data collection: online survey	• 13.7% of participants reported sharing sexual content of another person without consent. • Neither gender nor sexual orientation had an impact	**High (75%)**

	Canada	attitudinal and demographic predictors of Non-consensual intimate image (NCII) dissemination perpetration and victimisation.	dissemination"	SD=4.29. <u>Gender:</u> 72.7% identified as female and 27.3% as male. <u>Sexuality:</u> 81.4% identified as heterosexual and 18.6% as non-heterosexual. <u>Ethnicity</u> 12.5% identified as Asian, 10.6% as Black, 2.6% as East Indian, 33.5% as Hispanic/ Latinx, 1.7% as Indigenous, First Nation, Inuit, Métis, 34.2% as White and 3.4% identified as other. <u>Recruitment:</u> students recruited online from a Canadian university in exchange for course credit.	<u>Measures:</u> Sexual Image-based Abuse Myth Acceptance (Powell et al., 2019) The Short Dark Tetrad (SD4; Paulhus et al., 2021). Hanson Sex Attitude Questionnaire- Sexual Entitlement Subscale (Hanson et al., 1994) Aggrieved Entitlement Scale. Image based sexual abuse victimisation and perpetration subscales (Powell et al., 2019) <u>Analysis:</u> Descriptive statistics and correlations.	on perpetration. • 65.9% of the perpetrators reported the victim was a friend or family member, while 39.1% targeted and 26.8% reported that the victim was a stranger. • Higher narcissism (OR=.16; 95% CI: .09 – .22); Psychopathy (OR= .19; 95% CI:.12 – .27); Sadism (OR= .18; 95% CI:.10 – .25); Image-based sexual abuse myths acceptance, (OR= .11; 95% CI: .04 – .18); sexual entitlement (OR= .08; 95% CI:.01 – .14; and aggrieved entitlement (OR= .07; 95% CI: .001 – .14) predicted perpetration. • 57% of perpetrators also had a history of victimisation. Victimisation also increased likelihood of perpetration (OR=.34; 95% CI: .22- .53).	

8	Maas et al. (2021), USA	To examine demographic variables, 'slutpage' visitation, group membership, alcohol use and online image-based sexual abuse (IBSA).	"Posting nude images/videos online without consent, and using a vault app to store/share nude images".	*N*= 1867 American undergraduate students Age: 18-24, *M*=20.39, *SD* = 1.56 Gender: 36.4% identified as male and 63.6% identified as female. Ethnicity: 72.1% identified as White, 14.8% as Black, 6.7% as Asian, 4.7% as Middle Eastern, and as1.7% Hispanic or Latinx. Sexuality: 79.7% identified as heterosexual, 7.8% as 'mostly heterosexual', 5.6% as bisexual, 4.3% as gay or lesbian, 1.4% as asexual, and 1.2% as 'questioning' Recruitment: Convenience sample of students enrolled in	Design: cross-sectional Data collection: self-reported data/survey concerning demographic information, university team activities, alcohol use, social media behaviours and RP behaviours. Analysis: bivariate correlations, multivariate hierarchical linear regression	• 12.1% of participants self-reported sharing non-consensual sexual content online or through a vault app. • Male participants (6.5%) were more likely to share non-consensual content online than female participants (0.8%; *n*=9). Male participants were also more likely to post non-consensual content via vault app compared to females (0.8%). • Participants that engaged in a fraternity (16%) were more likely to post non-consensual content online than participants engaged in a team sport (7.4%) and those not engaged in sport or fraternity (2.8%). • Participants that shared non-consensual content were also more likely to participate in a fraternity (14.5%) and team sport (9.4%) compared to participants that did not engage in either (9.3%). • Male participants posted non-consensual content more frequently if they played in a team sport (14.9%) or participated in a fraternity (20.2%) compared to males that did not engage in either (6.5%), females that participated in fraternity (11.3%) and team sport (0.0%). • Male participants engaged in team sport (18.9%), or a fraternity (27.5%) also shared non-consensual content more frequently via a vault app than female participants that played a team sport (0.0%) and participated in fraternity (0.0%). • Male participants posted non-consensual content more frequently than females, particularly if they	**Moderate (63%)**

				university.		were engaged in fraternity or team sport, $F(8, 1856) = 13.12$, $p < 0.01$. • Frequency of 'slutpage' visitation, pornography use, social media use, and alcohol use were significantly associated with posting non-consensual content, but not perpetration through vault app use. • Participants who were younger (B = − 0.18, SE = 0.01, p < .001), identified as a man (B = 0.11, SE = 0.01, p < .001), viewed more pornography (B = 0.13, SE = 0.01, p < .001), and participated in Greek Life (B = 0.07, SE = 0.02, p < .01) perpetrated via a vault app more frequently.	
9	Morelli et al. (2016), Published, Italy	To examine the role of sexism in sext sharing.	"Sharing of photos or videos of someone else without his/her consent; not-allowed sharing of sexts."	*N*=715 Italian school and university students. Age: 13-30, M=22.01, SD= 4.01. Gender: 71% identified as female and 29% as male. Sexual orientation: 87% identified as being heterosexual and 13% as non-heterosexual.	<u>Design:</u> cross-sectional <u>Data collection:</u> self-reported data <u>Measures:</u> Sexting Behaviors Scale (Dir, 2012) Conflict in Adolescent Dating Relationships Inventory (Wolfe et al., 2001) The Ambivalent Sexism	• Positive correlation between gender and non-consensual sharing (R= .14, p < .01), with males reporting more non-consensual sharing. than females • Older participants engaged less in non-consensual content sharing compared to younger participants (R=. -10, p < .01) • Non-consensual sharing was significantly associated with dating violence perpetration, B= .08, p < .05. • Hostile sexism (i.e., a negative stereotyped views of gender roles) was a significant predictor of non-consensual sexting. • Non-consensual content sharing was significantly related to benevolent sexism (B= .10, p < .05) and	**High (70%)**

				Recruitment: Convenience sample of students attending different public schools and university classes via online.	Inventory (Glick & Fiske, 1996) Analysis: Correlations between variables.	hostile sexism *(B*= .07, *p* < .05). • Sexual orientation did not correlate with non-consensual sharing.	
10	Powell et al. (2019), Australia	To examine the prevalence, motivations and predictors of image based sexual abuse (IBSA) perpetration.	"Taken, distributed, and/or threatened to distribute a nude or sexual image of another person without their consent".	*N*= 4053 Australian residents. Age: 16-49, *M*=34.55 Gender: 56.7% identified as female and 43.3% as male. Recruitment: Convenience sample of Australian residents.	Design: cross-sectional Data collection self-reported data/survey questionnaires related to demographic characteristics; online dating behaviours; IBSA perpetration, victimisation and acceptance. Measures: IBSA Acceptance Scale (developed by the authors) Analysis: chi-square, logistic regression	• 11.1% of participants self-reported engaging in a form of revenge pornography behaviour. • Men were significantly more likely to perpetrate than women. Specifically, they were more likely to self-report taking (12.0% males vs. 6.2% females); dis-tributing (9.1 males % vs. 4.4% females), and/or threatening to share (7.0 males % vs. 3.3% females) private content: $\chi2(1, n = 4053) = 42.01$, $p < .001$, $\phi = 0.10$, $\chi2(1, n = 4053) = 36.87$, $p < .001$, $\phi = 0.10$, and $\chi2(1, n = 4053) = 28.44$, $p < .001$, $\phi = 0.08$ respectively. • LGB participants were also significantly more likely to take (17.2% non-heterosexual vs. 7.5% homosexual), distribute (13.7% heterosexual vs. 5.4% homosexual) and/or threaten to distribute (9.5% heterosexual vs. 4.3% homosexual) private content: $\chi2(1, n=4053) =49.62$, $p < .001$, $\phi=0.11$, $\chi2(1, n=4053)=47.59$, $p < .001$, $\phi=0.11$, and $\chi2(1, n=4053)=24.23$, $p < .001$, $\phi = 0.08$ respectively. • Participants with disability were more likely to perpetrate compared to participants without disability needs (OR = 2.06, 95% CI = 1.49 to 2.86).	**High (78%)**

						• Participants that produced non-consensual content were more likely to target a partner or former partner (40.1%), while participants that shared non-consensual content were more likely to target a friend (29.8%) and participants that threatened to share non-consensual content were more likely to target a friend (34.8%). • Image-based sexual abuse myths (blaming the victim; OR = 1.15, 95% CI = 1.06 to 1.25) and sexting (OR = 310, 95% CI = 2.19 to 4.38) predicted perpetration. • Having own sexual image taken without consent (OR = 2.78, 95% CI = 2.05 to 3.77), own content shared (OR = 2.35, 95% CI = 1.60 to 3.44) or threatened to be shared (R = 4.67, 95% CI = 3.17 to 6.87) increased likelihood of having engaged in revenge pornography behaviours.	
11	Powell et al. (2022) Published, UK, Australia and New Zealand.	To examine prevalence and correlates of Image-based sexual abuse (IBSA) perpetration	"form of technology-facilitated abuse, one that includes creating, distributing or threatening to distribute intimate (nude or sexual) photos or videos	*N*= 6109 participants Age: 16-64 years, *M*= 39.02 Gender: 52.1% women and 47% men. Age: M= 39.02, <u>Sexual orientation:</u> 88.9% identified as	<u>Design:</u> cross-sectional <u>Data collection:</u> Self-reported questionnaires related to demographic characteristics, online dating behaviours, sexual self-image behaviours, IBSA victimisation and perpetrations (including recent incidents).	• 17.5% participants self-reported in a form of revenge pornography: 19.6% of participants distributed content; 15.8% produced the content; and 8.8% threatened to share the content. • Male participants (66%) were more likely to perpetrate compared to female participants(OR=1.66; 95% CI: 1.40-1.96). • Male participants (22.3%) compared to females (13.1%) were significantly more likely to perpetrate any form of revenge pornography behaviours, $\chi 2(1, n=6109) = 89.18$, $p<.001$, $\phi=0.12$. • Having a disability compared to no disability	**Moderate (63%)**

			of someone without their consent".	heterosexual and 1.1% as Lesbian, Gay, Bisexual or other. Ethnicity:73.6% identified as being White, European and 26.4% from a diverse Black or ethnic minority background.	Measure: Sexual Image-based Abuse Myth Acceptance Scale (Powell et al., 2019) Analysis: descriptive and chi-square analyses, and logistic regression.	increased the likelihood of perpetration (OR= 2.00; 95% CI: 1.67-2.41). • Participants in living in New Zealand (19.9%) to those living in Australia (16.2%) and United Kingdom (16.5%) were more likely to perpetrate any form of revenge pornography behaviour $\chi 2(2, n=6109) =11.85$, $p =.003$, $\phi=0.04$. • Participants that produced non-consensual content (45.3%), shared non-consensual content (30.4%), and participants that threatened to share non-consensual content (27%) were all more likely to target a partner. • Image-based sexual abuse myths were associated with perpetration (OR= 1.36; 95% CI: 127-146). • Engaging in sexting behaviours (OR=2.18; 95% CI:1.70-2.78) and online dating (OR= 1.97; 955 CI:1.42-2.75) was associated with perpetration. • Having own sexual image taken without consent (OR = 2.60, 95% CI = 2.11 to 3.21), own content shared (OR = 2.20, 95% CI = 1.74 to 2.77) or threatened to be shared (R = 1.63, 95% CI = 1.30 to 2.05) increased likelihood of having engaged in revenge pornography behaviours. • Non-heterosexual orientation was not associated with perpetration. • Motivations for producing non-consensual explicit content included: 'for fun' (61.2%); to 'impress friends' (37.8%), to 'control' the victim (45%), and to 'embarrass/get back' at the victim (38%).	

						• Motivations for sharing non-consensual, explicit content included 'for fun' (58%); to exchange explicit content (54.7%), to 'control' victim (57.1%) and to 'get back' at the victim (51.7%). • Motivations for threatening to share private content included 'for fun' (55.8%); to share between friends (54.9%), to 'control' the person (63.2%) and to 'embarrass' the victim 61.4%). • Heterosexual participants (57.6%, and 60.6%) were more likely than LGB+ participants to share non-consensual, explicit content to impress friends/exchange content amongst friends (57.6% vs. 45.4%), to control the person (60.6% vs. 44.7%), and to 'get back' at the victim (55% vs. 39.7%). • Participants aged between 50 and 64 years being significantly less likely to take (10.4%,) or share (28.6%) non-consensual content to share amongst friends. Also, significantly less likely than other age groups to take (14.4%), share 19%) or threaten to share (33.3%) explicit content to control the victim, and less likely to take (10.4%), share (21.4%) or threaten to share (33.3) non-consensual explicit content to embarrass or seek revenge against the victim. • Individuals from ethnic minority backgrounds. Were significantly more to likely than white participants to perpetrate to impress friends (46.1% vs. 33.7%), to control the victim (52.6% vs. 41.2%), and to avenge (44.9% vs. 34.5%).	

12	Trendell (2019), Study 1 Unpublished, Canada	Explore factors and behaviours associated with Inappropriate Intimate Image-based behaviours (IIIBB).	"Inappropriate intimate image-based behaviours refers to coerced sexting, distributing an intimate image without consent as a means of social connection or entertainment (EDDII) revenge pornography and sextortion collectively. However, the non-consensual distribution of intimate images refers to when images or videos are distributed or uploaded without consent when the motive or exact behaviour is	N= 630 Canadian young adults. Age: 18-25 M=21.18, SD=2.21 <u>Gender:</u> 66.8% identified as female, 30.0% as male and 2.7% as a 'gender minority'. <u>Ethnicity:</u> 77% were Caucasian and 33% from an ethnic minority background. <u>Sexuality:</u> 76.5% identified as heterosexual and 23.5% as non-heterosexual. <u>Relationship status:</u> 47.5% were in a committed relationship at some point, 37.8% were single and 14.7% were dating. <u>Education history:</u>	<u>Design:</u> cross-sectional <u>Data collection:</u> online survey. <u>Measures:</u> The Sexual Compulsivity Scale (Kalichman et al., 1994). The Paraphilia Scale (Seto et al., 2012). The Illinois Rape Myth Acceptance Scale (Payne, et al., 1999). The Revised Conflict Tactic Scale (Straus et al., 1996). The Barratt's Impulsivity Scale -11 (Patton et al., 1995). The Short Dark Triad (Jones & Paulhus, 2014). The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). <u>Analysis:</u> Chi-square, Pearson's	• 14.9% of participants shared sexual content of someone without consent as a means of social connection or entertainment, while 5.1% also shared content but for unknown reasons. • No significant relationship between demographic variables and distributing non-consensual content expect for relationship status. Participants that were single (6.4%) were more likely to distribute non-consensual images compared to participants that were in a committed relationship (4.4%) and casually dating (1.1%). • No significant demographic differences in relation to sharing non-consensual images as means of social connection or entertainment. • Sexual compulsivity (*R*=.15, *p*<.001); offence supportive attitudes (rape myths; *R*=.12, *p*<.01); voyeuristic interests (*R*=.11, *p*<.01); sadism interests (*R*=.09, *p*<.05); relationship conflict (*R*=.15; *p*<.001); dark triad (*R*=.19, *p*<.001); Machiavellianism (*R*=.14, *p*<.01); Narcissism (*R*=.14, *p*<.001); Psychopathy (*R*=.15, *p*<.001) but not paraphilic interests, loneliness, impulsivity correlated with sharing non-consensual content as means of social connection or entertainment. • Sexual compulsivity (*R*=.14, *p*<.001); offence supportive attitudes (rape myths; *R*=.10, *p*<.05); voyeuristic interests (*R*=.10, *p*<.05); paraphilic interests (*R*=.14, *p*<.01); sadism interests (*R*=.12, *p*<.01); (*R*=.18, *p*<.001); Machiavellianism (*R*=.12,	**High (70%)**

			unknown (i.e., unknown whether it is EDDII, revenge pornography, or sextortion)".	80.4% completed post-secondary education (and 19.6% did not. Recruitment: participants who were recruited from a university and a community population.	correlations, logistic regression	*p*<.01); Psychopathy (*R*=.18, *p*<.001); Impulsivity(*R*=.11 *p*<.01) but not loneliness and narcissism correlated with distributing non-consensual sexual images.	
13	Walker et al. (2019), Published, United Kingdom	To examine he prevalence of consensual and non-consensual sharing of sexually explicit content, and to identity motivations for such behaviours.	"non-consensual sharing of sexually explicit material (messages, pictures, and videos)".	N= 391 students Gender: (n= 321 females, n = 70 males) Age: 18-25, *M*=20.44; *SD*=1.59 Ethnicity: 53.70% identified as White, 19.17% from an Asian ethnic background; 14.32% from a Black ethnic background, and 12.81% identified as being from Mixed/ Other backgrounds; Recruitment: 323	Design: cross-sectional Measures: self-reported questionnaires related to demographic information, consensual and non-consensual sharing of private content; and norms and attitudes about this. Analysis: chi-square	• 16.37% of participants reported perpetrating non-consensual sharing. • No significant gender differences in relation to perpetration. • Significant association between non-consensual sharing and victimisation, $\chi 2$ (1) = 36.44, p < .001. • Motivations for non-consensual sharing were as follow: 'to seek advice' (27.1%); for 'fun' (27.1%); to gossip (10.28%); to share amongst friends (6.54%); and to 'show off' (3.74%). • Attitudes that sexual content that is initially consensually shared might be subsequently shared without consent, and non-consensual sharing of images is trivial predicated non-consensual acts, (b = .41, Wald $\chi 2$ (1) = 6.26, p<.01), (b = .31, Wald $\chi 2$ (1) = 6.74, p<.01) respectively.	**Moderate (63%)**

				participants were recruited online while 68 were recruited using a traditional paper-based method.			

2.6.2. Quality of studies

The studies varied in overall quality, with quality rating ranging between 20 and 33 out of a possible 40 (M= 27.57, SD= 3.13). See appendix D for results of quality assessment for each study. The studies are listed with their quality assessment scores. Six studies were considered high quality and seven studies were considered moderate quality, with no studies considered low quality included. A narrative synthesis was carried out on the studies that met the inclusion criteria and quality was assessed at above 50%, in order to increase the reliability of the overall findings. The highest quality score was 83% (Boer e al., 2021); indicating the findings within this study was reliable and consistent. The lowest score was 50% (Eaton et al., 2017). Eaton et al. (2017)'s study lost quality points because it did not include validated and reliable measures nor did it account for confounding variables. In addition, statistics and relevance of the study were not provided, so details about this remained unclear.

An opportunistic or convenience sampling method was used to recruit all participants included in this review. It is therefore possible that the included studies were not entirely representative of the population who mostly perpetrate revenge pornography behaviours. Likewise, gender, age, sexuality, ethnicity, and education levels were not equally represented within the included studies; most of the studies reported an overrepresentation of participants that were Caucasian, female, young and in education or highly educated. In addition, no studies included a control group; instead one study divided participants into groups to compare the differences between perpetration and non-perpetration (Harder et al., 2019); another study compared differences between individuals that had not perpetrated, and those that perpetrated once or more than once (Barrense-Dias et al., 2020); and three studies divided participants into two groups (perpetrator vs. victims; Barroso et al., 2021; Eaton et al., 2017; Karasavva & Forth, 2021). Furthermore, three studies used comparisons or subgroups to control for confounding variables that might influence differences between groups or the statistical findings (Boer et al., 2021; Clancy et al., 201; Powell et al., 2022). No studies included individuals that were incarcerated or had a conviction for revenge pornography. This might be because of the recruitment

strategy employed (i.e., recruiting via university schemes and across social media platforms). It is noteworthy that access to revenge pornography perpetrators is limited by lack of convictions, as well as the ethical considerations recruiting participants that are incarcerated. This might also be influenced by revenge pornography being a relatively new offence, so people are not as effectively being caught or brought to justice.

All of the included studies were cross sectional by design, meaning that the exposure and outcome were measured at a single point (Levin, 2006). Although it is difficult to determine the causality of the relationship between the exposure and outcome in cross-sectional research, studies attempted to control for confounding variables.

Only one study discussed power in relation to their sample size (Walker et al., 2019). The power calculations indicated that the sample size was appropriate to observe significant differences. The other studies did not include power calculations and as such it is difficult to comment on the appropriateness of their sample sizes. That said, studies generally used large samples, which reduces the probability of type II errors, that is the probability of incorrectly failing to reject the null hypothesis that is false.

Most studies developed a questionnaire to collect data relating to revenge pornography behaviours, socio-demographic factors, and other variables of interest. Self-reported measures are generally prone to socially desirable responding. Despite this being noted by authors, only one study controlled for social desirability bias (Trendell, 2019). Two studies used a psychometric tool developed by the authors to examine revenge pornography behaviours (Powell et al., 2019; Powell et al., 2022). This tool was also used in another study (Karasavva & Forth, 2021). Eight studies used validated psychometric tools to collect additional data on the following variables: levels of aggressiveness, social difficulties, anxiety and depression, childhood trauma, pornography and social media use, dark triad personality traits, interpersonal transgressions, peer influence, relationship/interpersonal functioning, aggrieved and sexual entitlement, sexism, sexual compulsivity, sexual sadism,

voyeurism and offence-supportive attitudes (Barroso et al., 2021; Boer et al., 2021; Clancy et al., 2019; Harder et al., 2019; Karasavva & Forth, 2021; Morelli et al., 2016; Trendell, 2019). Only one study included reliability and validity coefficients for the psychometrics used, highlighting the accuracy and reliability of the measurement tools (Trendell 2019). In addition, only three studies included dropout completion rates (Boer et al., 2021; Maas et al., 2021; Powell et al., 2019), while only 2 studies discussed how missing data or values were handled (Boer et al., 2021; Mass et al., 2021).

All studies with the exception of one study (Eaton et al., 2017), described their statistical measures appropriately and provided description of significant and non-significant results. Some studies considered potential for confounding variables (i.e., age and gender). All studies except one (Eaton et al., 2017) discussed their findings in line with the existing literature on revenge pornography and other forms of sexual violence and abuse. Methodological limitations were also considered within such studies.

2.6.3. Descriptive data synthesis

Due to the heterogeneity of definitions, methodologies and outcomes across the included studies, a meta-analysis was not completed. Instead, the data was synthesised using a narrative approach. Table 2.3 summarises the synthesised data relating to factors associated with revenge pornography perpetration. These factors have been grouped based on similarities. This is because the identified factors were not consistently explored, making it difficult to identity themes. Results from the data synthesis were varied with the most consistent finding being that males, adolescents/young people, those engaging in sexting behaviours, and individuals with a history of revenge pornography victimisation were more likely to perpetrate revenge pornography. Theoretical explanations are drawn upon in the discussion section.

Table 2.3: Summarises findings from included studies of factors associated with revenge pornography perpetration.				
Factors associated with		**Studies supporting evidence**		**Summary of evidence**
		Study (date of study; quality of assessment score %)	**n**	
Socio-demographic factors	Gender	Barrense-Dias et al. (2020; 86%); Barroso et al. (2021; 75%); Boer et al. (2021; 83%); Eaton et al. (2017; 50%); Harder et al. (2019; 68%); Maas et al. (2021; 63%); Morelli et al. (2016; 70%) Powell et al. (2019, 78%); Powell et al. (2022; 63%).	9	Gender was found to be a significant predictor of revenge pornography perpetration. Male participants more likely to perpetrate compared to female participants.
	Age	Barroso et al. (2021; 75%); Boer et al. (2021; 83%); Eaton et al. (2017; 50%); Harder et al. (2019; 68%); Maas et al. (2021; 63%); Morelli et al. (2016; 70%).	6	Adolescents and young adults were more likely to share non-consensual content
	Sexual orientation	Barrense-Dias et al. (2020; 86%); Powell et al. (2022; 63%).	2	Sexual orientation, specifically non-heterosexual orientation was associated with sharing explicit non-consensual content. Having a non-heterosexual orientation increased likelihood of all forms of perpetration (sharing, taking, and threatening to share content) for both male and female participants.
	Ethnicity and culture	Barrense-Dias et al. (2020; 86%); Boer et al. (2021; 83%); Powell et al. (2022; 63%).	3	Individuals from an ethnic minority/ 'non-western' background and/or 'foreign born' were more likely to engage in revenge pornography behaviours. Further, Individuals living in New Zealand were more likely to perpetrate when comparing to individuals living in Australia and the United Kingdom.
	Disability	Powell et al. (2019; 78%); Powell et al. (2022;	2	Individuals with a disability were more likely to

		63%)		perpetrate than individuals without disability.
	Educational background	Barrense-Dias et al. (2020; 86%); Boer et al. (2021; 83%).	1	Being from a 'less educated' background increased likelihood of perpetration.
	Relationship Status	Trendell (2019; 70%);	1	Participants that were single were more likely to distribute non-consensual images compared to participants that were in a relationship or casually dating.
	Geographical location	Boer et al. (2021; 83%).	1	Living in urban-rural areas compared to rural areas increased the likelihood of perpetrating.
Attitudinal characteristics	Image-based sexual abuse (IBSA) myths, rape myths Acceptance	Karasavva & Forth (2021; 75%); Powell et al. (2019; 78%); Powell et al. (2022; 63%).	3	Acceptance of IBSA myths increased likelihood of perpetration of all forms of revenge pornography (sharing, taking, and threatening to share content). Rape myths also predicted perpetration.
	Aggrieved entitlement and sexual entitlement	Karasavva & Forth (2021; 75%).	1	High levels of aggrieved entitlement and sexual entitlement increased likelihood of perpetration.
	Hostile sexism	Morelli et al. (2016; 70%).	1	Hostile sexism predicted perpetration, specifically sharing explicit non-consensual content.
	Acceptance of perpetration	Clancy et al. (2019; 68%); Walker et al. (2019; 63%).	3	Higher acceptance of perpetration- that is trivial, a normal practice, and accepted following relationship breakdown was associated with perpetration.
	Victim blaming	Powell et al. (2019; 78%).	1	Perpetrators attributed higher levels of victim blame compared to those that did not perpetrate.
	Perceptions of perpetration	Clancy et al. (2019; 68%); Trendell (2019; 70%).	1	Stronger offence-supportive attitudes/perceptions that sharing non-consensual explicit content is enjoyable, and increases one's social status, was associated with perpetration.
Motivations	Intentions	Barrense-Dias et al. (2020; 86%); Clancy et al. (2019; 68%); Eaton et al. (2017; 50%); Powell	4	Motivations for perpetration was to deal with relationship conflict/breakdown, to obtain advice

		et al. (2022; 63%)		from friends, exchange content amongst friends, being unaware of the consequences, for amusement, for social exposure and to cause harm (to victim).
	Victim	Eaton et al. (2017), Powell et al. (2019; 78%); Powell et al. (2022; 63%); Walker et al. (2019; 63%).	4	Current partner or ex-partners were more likely to be targeted.
Victimisation	Historic revenge pornography victimisation	Boer et al. (2021; 83%); Karasavva & Forth (2021; 75%); Powell et al. (2019; 78%); Powell et al. (2022; 63%); Walker et al. (2019; 63%).	5	Having own sexual image taken without consent or own content shared or threatened to be shared, increased likelihood of having engaged in revenge pornography behaviours.
Sexting behaviours	Sending and receiving explicit consensual content	Barrense-Dias et al. (2020; 86%); Boer et al. (2021; 83%); Harder et al. (2019; 68%); Powell et al. (2019; 78%); Powell et al. (2022; 63%).	5	Sending sexual self-images and/or receiving sexual content was associated with perpetration
	Receiving non-consensual sexual images	Barrense-Dias et al. (2020; 86%); Harder et al. (2019; 68%).	2	Perpetrated were also more likely to have received non-consensual sexual images
Psychological characteristics	Mental health	Barroso et al. (2021; 75%); Boer et al. (2021; 83%).	2	Higher levels of psychological distress, anxiety and depression was associated with perpetration
	Emotional difficulties	Harder et al. (2019; 68%); Trendell (2019)	2	Poor self-control was associated with perpetration, but no positive correlation found between perpetration and loneliness or impulsivity.
	Behavioural difficulties	Barroso et al. (2021; 75%); Trendell (2019; 70%).	2	Reactive aggression and proactive aggression, and impulsivity were associated with perpetration.
	Personality traits	Barroso et al. (2021; 75%); Clancy et al. (2019; 68%); Karasavva & Forth (2021; 75%); Trendell (2019; 70%).	4	High levels of callousness traits and Dark personality traits were associated with perpetration. psychopathy and narcissism increase the likelihood of perpetration. sexual sadism increased perpetration and positively correlated with specifically sharing content without consent as a means of social connection or entertainment.

	Trauma	(Barroso et al., 2021).	1	Perpetrators significantly reported more experiences of childhood traumas.
	Atypical sexual interests	Trendell (2019; 70%).	1	Voyeuristic interests, sexual sadism, and paraphilic interests correlated with distributing non-consensual content.
	Sexual compulsivity	Trendell (2019; 70%).	1	Sexual compulsivity correlated with perpetration.
Risky behaviours	Alcohol consumption	Harder et al. (2019; 68%); Maas et al. (2021; 63%); Morelli et al. (2016; 70%).	3	Higher levels and more frequent consumption of alcohol increased likelihood of perpetration
	Pornography consumption	Boer et al. (2021; 83%); Maas et al. (2021; 63%).	2	Frequent access to pornography websites was associated with perpetration.
	Social media use	Boer et al. (2021; 83%); Maas et al. (2021; 63%).	2	Frequency of 'slutpage' visitation and more generally accessing social media was associated with perpetration.
	Online dating	Boer et al. (2021; 83%); Powell et al. (2022; 63%).	2	Online dating was associated with perpetration and increased the likelihood of each form of perpetration (sharing, taking, and threatening to share non-consensual content).
	Sexual behaviours	Boer et al. (2021; 83%); Clancy et al. (2019; 68%); (Harder et al. (2019; 68%).	3	Being sexually active, and unsafe sex was associated with sharing non-consensual content.
Group membership	Team sport and fraternity	Maas et al. (2021; 63%).	1	Participants more likely to perpetrate if they participated in team sport, and fraternity.

2.7 Results

2.7.1. Socio-demographic characteristics

All of the included studies explored socio-demographic characteristics of revenge pornography perpetrators including age, gender, sexuality, ethnicity/culture, education background and geographical location and socioeconomic status. Significant gender differences were found in nine studies (n=107,367), with male participants significantly more likely than female participants to have self-reported sharing sexual content of another person without their consent (Barrense-Dias et al., 2020; Barroso et al., 2021; Boer et al., 2021; Eaton et al., 2017; Harder et al., 2019; Maas et al., 2021; Morelli et al., 2016; Powell et al., 2019; Powell et al., 2022). Gender was also found to be a significant predictor of all forms of revenge pornography perpetration (sharing, taking, and threatening to share content; Powell et al., 2019; Powell et al., 2022). In contrast, four studies reported no significant differences in perpetration in regard to gender (Clancy et al.,2019; Karasavva & Forth, 2021; Trendell, 2019; Walker et al., 2019).

Perpetration was highly prevalent in adolescents aged between 14 years and 16 years compared to 13- year-olds (n=4,281; Barroso et al., 2021); and adolescents aged 15 to 17 years-old compared 12–14-year-olds (n= 20,834; Boer et al., 2021). With a sample of 3,044 participants, Eaton et al. (2017) reported higher perpetration rates amongst young adults aged between 18 to 25 years old (8.2%) when comparing to older age groups. These findings were consistent with three other studies showing that adolescents and young adults (n=68,331) were more likely to self-report sharing non-consensual content (Barrense-Dias et al., 2020; Harder et al., 2019; Maas et al., 2021). In contrast, two studies found no gender differences in relation to perpetration (Clancy et al., 2019; Trendell, 2019).

Sexual orientation, specifically having a non-heterosexual orientation was associated with sharing explicit non-consensual content in three studies (n=30,062; Barrense-Dias et al., 2020; Boer et al., 2021; Powell et al., 2019). Powell et al. (2019) found that LGB participants were significantly more likely to take (17.2% non-heterosexual vs. 7.5% heterosexual), distribute (13.7% non-heterosexual vs. 5.4% heterosexual) and to threaten to distribute (9.5% non-heterosexual vs. 4.3% heterosexual) non-consensual content. However, it is worth noting that none of the studies divided the non-heterosexual according to gender

despite finding gender differences in offence perpetration, thus a limitation for these particular studies. No significant relationship was found between sexual orientation and perpetration in three studies (Karasavva & Forth, 2021; Morelli et al. 2016; Powell et al., 2022).

Three studies (n=32,118) explored nationality, ethnicity, and culture in relation to perpetration (Barrense-Dias et al., 2020; Boer et al., 2021; Powell et al., 2022). Boer et al. (2021) found that perpetration was higher for participants from a non-western background (OR=1.41; 95% CI: 0.99– 1.92); a Surinamese background (OR = 1.63; 95% CI: 0.96– 2.46), and an Antillean background (OR = 2.30; 95% CI: 1.13– 3.70), compared to those with a Dutch or Western background. Participants from a Moroccan and Antillean background were also twice more likely to share non-consensual content than those from a Dutch or Western background. In a multi-country study, Powell et al. (2022) found that Participants in living in New Zealand (19.9%) to those living in Australia (16.2%) and United Kingdom (16.5%) were more likely to perpetrate any form of revenge pornography behaviour $\chi 2(2, n=6109) =11.85$, $p =.003$, $\phi=0.04$, although reasons for these significant findings were not reported nor discussed.

Two studies (n= 10,162) examined disability in relation to offence perpetration. Powell et al. (2019) found that participants with disability were more likely to perpetrate compared to participants without disability needs (OR = 2.06, 95% CI = 1.49 to 2.86). Similarly, Powell et al. (2022) found having a disability compared (compared to no disability) significantly increased the likelihood of perpetration (OR= 2.00; 95% CI: 1.67-2.41). With regards to educational background, two studies (n=26,009) found that having 'lower education levels' increased likelihood of perpetration (Barrense-Dias et al, 2020; Boer et al. 2021).

A study compromising of 630 participants examined relationship status and revenge pornography perpetration, with participants who self-identified as single (6.4%) being more likely to distribute non-consensual images compared to those in a committed a committed relationship (4.4%) and casually dating (1.1%). However, this relationship was not found for individuals that shared non-consensual images as means of social connection or entertainment (Trendell, 2019).

Only one study (n=20,834; Boer et al., 2021) explored the geographical location of perpetrators. Living in urban-rural areas compared to rural areas significantly increased the likelihood of perpetrating (OR= 1.43; 95% CI: 1.13-1.79).

2.7.2. Attitudinal characteristics

Three studies compromising of 10,972 participants explored revenge pornography perpetration in relation to myths about revenge pornography and rape. Karasavva and Forth, (2021) found that sharing non-consensual sexual images was related to higher acceptance of IBSA myths-beliefs. IBSA myths were reported to have five broad functions: to blame the victim; express disbelief; minimise the severity of the act; excuse the perpetrator; and to imply that only certain victims are targeted. Similar findings were reflected in two other studies (Powell et al., 2019; Powell et al., 2022) where IBSA myths were significant in predicting perpetration. In particular, perpetrators generally attributed higher levels of victim blaming, in that the breach of privacy derived from victims initially producing the explicit material and therefore allowing this material to be shared (Powell et al., 2019). Trendell (2019) found that acceptance of rape myth- beliefs that victims are culpable or deserve to be raped- correlated with distributing non-consensual sexual images, as well as, sharing non-consensual content as means of social connection or entertainment.

Aggrieved and sexual entitlement, the belief that one is owed sexual favours; and aggrieved entitlement, and the belief that one is entitled to feel angry or humiliated if their sexual needs are not fulfilled irrespective of the impact on others, was examined in Karasavva and Forth (2021)'s study with 810 participants. Aggrieved and sexual entitlement increased with likelihood of perpetration.

Morelli et al. (2016) explored the relationship between hostile sexism-negative stereotyped views of gender roles and sharing explicit non-consensual content (images or videos) with 715 participants. Benevolent and hostile sexism was significant in predicting perpetration. Benevolent and hostile sexism was also more prevalent in adolescent and male participants.

Two studies (n=896) examined acceptance of revenge pornography behaviours. Clancy et al. (2019) found that participants that disseminated content agreed more strongly that it was not 'a big deal', non-consensual content is usually seen by others beyond the intended recipient (i.e., a normalised practice) and under contexts of relationship breakdown/conflict. Gender differences were also noted, with male participants more likely to accept perpetration in comparison to female participants. Attitudes that sexual content that is initially consensually shared might be subsequently shared without consent and that sharing is trivial, also significantly predicted perpetration in Walker et al. (2019)'s study.

Perceptions of perpetration were examined in one study with 505 participants (Clancy et al., 2019). Attitudes/perceptions that sharing non-consensual explicit content is enjoyable, and increases one's social status, was associated with perpetration. Gender differences were also noted, with male participants agreeing more strongly that sharing non-consensual sexual content is 'funny' and increases social exposure amongst peers.

2.7.3. Motivations

Seven studies compromising of 25,386 participants, examined motivations for revenge pornography perpetration. In country sample study, Powell et al. (2022) found that 17.5% of the total sample self-reported engaging in at least one form of perpetration. The reasons for producing images or videos of a person without their consent included for 'fun' (61.2%), 'impress friends' (37.8%), for control over the person (45%), to 'embarrass/get back' at the victim (38%), The most commonly reported reason for sharing non-consensual, explicit content included for 'fun' (58%), to exchange explicit content (54.7%), for control over the person (57.1%), to 'get back' at the victim (51.7%) For threatening, motivations included fun (55.8%), share between friends (54.9%), to control the person (63.2%), to 'embarrass' the victim 61.4%). Although there were no significant country or gender differences in motivations to perpetrate, heterosexual participants (57.6%, and 60.6%) were more likely than LGB+ participants to report sharing non-consensual, explicit content to impress friends/exchange content amongst friends (57.6% vs. 45.4%), to control the person (60.6% vs. 44.7%), and to 'get back' at the victim (55% vs. 39.7%). There were some age differences relating to these motivations, with participants aged between 50 and 64 years being significantly less likely to take (10.4%,) or share (28.6%) non-consensual content to share

amongst friends. Those aged 50–64 years were also significantly less likely than other age groups to take (14.4%), share 19%) or threaten to share (33.3%) explicit content to control the victim. Similarly, they were significantly less likely to take (10.4%), share (21.4%) or threaten to share (33.3) non-consensual explicit content to embarrass or seek revenge against the victim. Finally, some differences were found regarding the race and ethnicity of participants, with those from an ethnic minority background being more to likely than white participants and New Zealanders primarily of European descent, to perpetrate to impress friends (46.1% vs. 33.7%), to control the victim (52.6% vs. 41.2%), and to avenge (44.9% vs. 34.5%). No other differences related to socio-demographic variables were noticed/reported.

Barrense-Dias et al. (2020) found that perpetrators most commonly reported motivations for sharing sexual images of others without consent for 'fun/enjoyment' (62%), to 'show off' (30%), and because they were unaware of consequences/ severity of the act (9%). There were noted differences for participant gender and between those that perpetrated once and several times. Compared to female participants, male participants were more likely to non-consensually share sexual images (OR=4.94) to 'show off', whereas female participants were more likely to share non-consensual sexual images to obtain advice from friends (OR=0.69). For participants that shared images several times, compared to those that only shared images once, they were more likely to have reported perpetrating for 'fun' (OR=1.49) and amongst friends (OR=1.21). For participants that shared images once compared to those that shared several times, they were more likely to have reported being unaware of the consequences of their behaviour (OR=0.68). Similarly, Clancy et al. (2019) found that participants most frequently cited the following as motivations for perpetration: 'not a big deal' (47.8%), 'it's a joke or funny' (30.8%), 'for attention/praise' (15.9%), 'to increase social status' (15.9%), 'was asked to do it' (13.8%), 'peer pressure' (8.5%;); 'to get recipient in trouble' (6.3%), and other reasons that are not specified (35.1%). Similar to the other two studies, Eaton et al. (2017) found that motivations for perpetration included sharing amongst friends with no malice (79%), for 'fun' (16%), in response to interpersonal transgressions (11%), to 'gloat' (7%), to increase social media presence (4%), ruin victim's life 0.6%), and in response to a relationship breakdown (0.6%).

Four studies (n=13,597) found that current, or former romantic partners were more likely to be targeted; suggesting that perpetration might be motivated by a desire to harm or in response to relationship difficulties (i.e., transgressions, breakdown and conflict; Eaton et al., 2017; Powell et al, 2019; Powell et al., 2022; Walker et al., 2019).

2.7.4. Victimisation

Having a history of revenge pornography victimisation was associated with the perpetration in five studies (n= 32,197; Boer et al., 2021; Karasavva & Forth, 2021; Powell et al., 2019; Powell et al., 2022; Walker et al., 2019). Boer et al. (2021) found that perpetration as most prevalent for participants that had their own sexts shared than those that did not, OR= 4.31; 95% CI: 3.32–5.55). Powell et al. (2019) found that having own sexual image taken without consent (OR = 2.78, 95% CI = 2.05 to 3.77), own content shared (OR = 2.35, 95% CI = 1.60 to 3.44) or threatened to be shared (R = 4.67, 95% CI = 3.17 to 6.87) significantly increased likelihood of perpetration. Similarly, Powell et al. (2022) found that having own sexual image taken without consent (OR = 2.60, 95% CI = 2.11 to 3.21), own content shared (OR = 2.20, 95% CI = 1.74 to 2.77) or threatened to be shared (R = 1.63, 95% CI = 1.30 to 2.05) increased likelihood of having engaged in revenge pornography behaviours.

2.7.5. Sexting behaviours

Sending sexual self-images and/or receiving sexual content was associated with perpetration in 3 studies (n=97, 460; Barrense-Dias et al. 2020; Boer et al., 2021; Harder et al., 2019; Powell et al., 2019; Powell et al., 2022). Male perpetrators were more likely to have engaged in sexting behaviours (Barrense-Dias et al., 2020). Participants that perpetrated were also more likely to be in receipt of a non-consensual sexual images of someone they did not know (Barrense-Dias et al., 2020).

2.7.6. Psychological characteristics

Six studies (n=71,291) explored a range of psychological characteristics in relation to perpetration. Perpetrators generally experienced more psychological and emotional difficulties (Barroso et al., 2021; Harder et al., 2019). Higher levels of psychological distress, anxiety and depression was associated with perpetration (Barroso et al., 2021; Boer et al., 2021). Lack of self-control, characterised by difficulties managing emotions, desires and

impulses was also associated with perpetration (Harder et al., 2019). In contrast, Trendell (2019) found no positive correlation between perpetration and loneliness.

Aggressiveness- the propensity to engage in acts of physical and verbal aggression in response to social threat/provocation (i.e., reactive aggression) and/or in anticipation of a reward/personal gain (i.e., proactive aggression) was associated with perpetration in a sample of adolescents (Barroso et al., 2021). Impulsivity correlated positively with perpetration with an adult sample (Trendell, 2019).

With regards to personality variables, higher levels of callousness traits, which compromises of callous, uncaring, and unemotional facets of personality and associated with empathy and affect deficits, and morality, was associated with perpetration (Barroso et al., 2021).

The dark triad personality traits which compromise of Machiavellianism, narcissism and psychopathy and are associated by affect-interpersonal and empathy deficits, and immorality, were also associated with perpetration (Clancy et al., 2019; Trendell, 2019). Karasavva and Forth (2021) found only psychopathy (characterised by affect deficits, impulsivity, and stimulation-seeking behaviours) and narcissism (characterised by egocentrism, grandiose thinking and entitlement) increased the likelihood of perpetration. Males, compared to females, scored higher on Machiavellianism and psychopathy (Clancy et al., 2019). Sexual sadism- sexual gratification from inflicting physical and psychological pain, acting in a cruel manner, and humiliating others- increased the likelihood of perpetration.

Only one study (n=4,281) found a link between traumatic childhood experiences and perpetration, with (Barroso et al., 2021). Perpetrators reported significantly reported more experiences of emotional abuse, emotional neglect, sexual abuse, and physical neglect, whereas parental separation or marriage had no significant impact on perpetration (Barroso et al., 2021).

Atypical sexual interests including Voyeuristic interests, sexual sadism, and paraphilic interests correlated with distributing non-consensual sexual content (Trendell, 2019). Sexual sadism, and Interpersonal conflict, but not paraphilia, positively correlated with sharing

sexual consensual content as a means of social connection or entertainment (Trendell, 2019).

2.7.7. Risky behaviours

Engaging in risky online and offline behaviours was associated with sharing non-consensual explicit content in six studies (n=91,319). Higher levels and more frequent consumption of alcohol increased likelihood of perpetration (Harder et al., 2019; Mass et al., 2021; Morelli et al. 2016). Being sexually active and unsafe sex significantly predicted perpetration (Boer et al. 2021; Clancy et al., 2019; Harder et al., 2019). Unsafe sex was associated with sharing content (Harder et al., 2019).

Content sharing was associated with frequently using social media, accessing dating apps and accessing online pornography sites (Boer et al., 2021). Frequency of 'slutpage', internet websites that explicitly encourage the sharing and trading of non-consensual explicit imagery, visitation, pornography use, social media use associated with perpetration (Mass et al., 2021). That said, Mass et al (2021) found that male participants that accessed online pornography and visited 'slutpages' perpetrated more frequently than their female counterparts. Dating someone online increased the likelihood of each form of perpetration (i.e., taking, sharing, and threatening to share content; Powell et al., 2022).

2.7.8. Group membership

Male participants compared to female participants, shared private content more frequently if they played in a team sport or participated in a fraternity. Men engaged in team sport, or a fraternity also shared content more frequently than male participants that did not play a team or did not participate in fraternity (Mass et al., 2021).

2.8. Discussion

The current review was the first to synthesise the emerging literature on factors associated with revenge pornography perpetration. The studies included in this review explored the characteristics of perpetrators, as well as motives for perpetration. Some of the findings are consistent with those made in wider literature on sexual behaviours, and as noted in chapter one. These are discussed below.

2.8.1. Interpretation of findings

The most salient finding was related to gender. Across the included studies, men were far more likely to perpetrate compared to women, which is in line with the debates on the gendered nature of revenge pornography (Fitz-Gibbon, 2022; Hall & Hearn, 2017; Hall et al., 2022; Hearn & Hall, 2019; Henry et al., 2020). The feminist perspective has suggested that revenge pornography behaviours stem from patriarchal discourses and practices (Henry et al., 2020). In an attempt to oppress, dominate and exploit women, abusive methods (like revenge pornography) may be used (DeKeseredy, 2021; DeKeseredy & Schwartz, 2016). This notion is supported by previous research proposing that revenge pornography and intimate partner violence are related constructs, and that the conceptual link between these behaviours, could explain the power and control that underpins such behaviours (Brown & Hegarty, 2018; Harper et al., 2022; Powell et al., 2022). Gender differences in perpetration could also be explained by differences in sexting practises and motivations for perpetration (Clancy et al., 2020). Men commonly reported social exposure and enjoyment as reasons for perpetrating the abuse. In contrast women chose to share non-consensual material in order to seek advice from friends (Clancy et al., 2020). Men were also overwhelmingly more likely to engage in sexting behaviours, which involve the exchange of consensual sharing of text messages and content, and more frequently accessed Internet websites (i.e., 'slutpages') that host revenge pornography material (Mass et al., 2021). However, it is important to note that the current review also found contradicting findings, with four studies reporting no significant differences between females and males in relation to perpetration (Clancy et al.,2019; Karasavva & Forth, 2021; Trendell, 2019; Walker et al., 2019). Thus, an important factor to continue exploring.

Age differences in relation to perpetration were noted, where older adolescents and young adults were more likely to share non-consensual content, which coincides with the adolescence pubertal timing and the 'age-crime curve' (Shulman & Cauffman, 2014; Ullsperger & Nikolas, 2017). This is unsurprising considering the high prevalence of Internet use amongst adolescents and young adults (Vente et al., 2020). These differences could also be explained by the overrepresentation of younger participants and student samples in the

included studies. It is noteworthy that only the Eaton et al. (2017) study reported the mean age of participants being over 40 years old.

Revenge pornography perpetration was also associated with culture and ethnicity. Perpetration was prevalent in individuals from cultures and societies that are typically reported to be patriarchal, misogynistic and place importance on gendered roles (Naciri, 2018). Sexual violence and abuse towards women are trivialised, accepted and enacted in cultures that promotes beliefs about male superiority, male entitlement, and social and cultural inferiority/ devaluation of women (DeKeseredy, 2021; DeKeseredy & Schwartz, 2016). Forms of revenge pornography perpetration (i.e., threatening to share content) might be used to control women and ensure their behaviour adheres to gender/cultural norm. Another explanation is that revenge pornography practices might be perpetuated as a way of being accepted in society (Barlett et al., 2016; Harper et al., 2021). These findings indicate it might be important to further explore motivations/reasons for perpetration for individuals from different cultures, because most of the included studies used samples recruited from the USA and other western countries.

The finding that individuals from LGBT communities were more likely to engage in perpetration might suggest that the Internet is used as a means through which individuals (from groups whose sexuality has been traditionally marginalised, silenced, and unexpressed) express sexual identity that might be otherwise socially repressed (Döring, 2022; Murça et al., 2023). Interestingly, participants with disability were more likely to perpetrated compared to those without disability needs. Although the authors of such studies were unable to provide (theoretical) explanations for these findings, one might suggest it could be attributable to three factors. Firstly, one's physical disability may limit their means to offend against victims in 'real life' (Fogden, et al., 2016). Secondly, individuals with a physical disability may engage in offending behaviours online as a way of compensating for the disproportionate levels of abuse they receive offline and online (Curry et al., 2009; Malihi et al., 2021). Lastly, individuals with disabilities have multiple risk factors (i.e., substance abuse, depression, anxiety etc.) and are therefore more susceptible to both victimisation and perpetration (Andrew & Veronen, 2013; Anstis & Thomas, 2022; Feist-Price et al., 2014; Henry et al., 2020; Mitra et al., 2016; Rossetti et al., 2016). Other

differences related to demographic variables included participants living in urban-rural areas and being from a 'less educated' background being more likely to have perpetrated at some point during their lifetime. It is possible that those living in urban-rural areas have more access to the Internet and as a result, opportunities to offend online (Henry et al., 2020).

Some psychological characteristics (i.e., anxiety and depression) were associated with perpetration. It might be the case that individuals perpetrate revenge pornography in part to reduce negative affective states or as a way to connect with others (O'Connor et al., 2018). This would be consistent with research demonstrating an association between depression/negative affective states and sexual offending, and online bullying (Englander, 2015; Gilbert et al., 2019; Hudson & Ward, 1997; O'Connor et al., 2018).

Participants who accepted imaged-based sexual abuse myths, rape myths and blamed victims were more likely to have engaged in at least one form of revenge pornography. Like other forms of sexual violence and abuse, perpetration is likely to be driven by hostile sexism, gendered stereotypes/myths of masculinity, and men's entitlement (DeKeseredy, 2021; DeKeseredy & Schwartz, 2016). Individuals who subscribe to gendered stereotypes/myths of masculinity not only behave according to these beliefs, but they also resist and defence against perceived threats to this (Henry et al., 2020). This may include women who do not conform to these roles. Perpetration may occur as a way of asserting boundaries/ power/dominance, as well as, re-establishing these roles (Henry et al., 2020). Although these assumptions in relation to revenge pornography are preliminary, they are consistent with the research on other forms of sexual aggression (Powell et al., 2022). Attitudes that serve to normalise, accept, minimise, and justify violent and sexual offending constitutes as risk factors for rape and intimate partner violence (Wegner et al., 2015). The tendency to blame victims also deviate from gendered stereotypes which are evidenced in other forms of sexual violence and abuse, where such beliefs are used to trivialise sexual violence (Wegner et al., 2015). In particular, beliefs where men and women are adversaries in sexual domains (DeKeseredy, 2021; DeKeseredy & Schwartz, 2016). Thus, by blaming victims, it is assumed they are deserving of the offence. The notion of entitlement, that is one must have their (sexual) needs fulfilled irrespective of the impact on others, is not new to the field of sexual offending, with researchers citing this as risk factor for the commission

of sexual offences against adult females and children (Pemberton & Wakeling, 2009; Sigre-Leirós et al., 2015).

Linked to this was the finding that revenge pornography perpetration was associated with group membership (being in a fraternity or a sports club) for university students. Sport clubs, fraternities, student organisations, and other same-gender social groups, have been found to reinforce sexualised rituals to promote traditional masculine norms and sexually objectify women, though team bonding and group initiation (Mass et al., 2021; Seabrook et al., 2018; McCready et al., 2022). McCready et al. (2022) argued that revenge pornography practices are overlooked, accepted and even celebrated because they are seen as 'typical' masculine behaviours. Perpetration might occur in environments that promote culture of male dominance, sexual entitlement, and normalise rituals based on sexual violence methods (Mass et al., 2021). This coupled with other components such as group loyalty and team cohesion, might explain the greater likelihood of perpetration in these populations (Seabrook et al., 2018). These factors are important to consider when planning interventions. A further explanation comes from the Social Identity of Deindividuation Effects theory (Reicher, 1982) which emphasises that deindividuation occurs when individuals replace their individual identity with a group identity. For individuals that distribute non-consensual content online, factors such as anonymity might fuel such behaviours within a group context (Zhong et al., 2020). A phenomenon described as the online disinhibition effect might be relevant here (see chapter one).

Personality characteristics were also considered to a driving factor for revenge pornography behaviours. Perpetration was associated with personality traits that mark other types of violent and abusive behaviours. The association between perpetration, callousness traits and the dark triad personality traits may be explained by lack of guilt and lack of empathy, underpinning these traits (Barroso et al., 2021). This is perhaps unsurprising considering that dark personality traits are commonly associated with high levels of entitlement, poor self-regulation, and interpersonal skills, manipulation, and lower empathy for others (Moor & Anderson, 2019; Powell et al., 2022). Individuals with these traits have shown to operate with the desire to inflict harm and control (Pina et al., 2017). Revenge perpetration may be explained by lack of guilt and empathy towards potential victims (Barroso et al., 2021), as

well as, the need to exert power and control over victims, as evidenced in other forms of sexual abuse and violence (Eaton et al., 2021). The findings also reflect those of broader sexual violence research in which psychopathy is related to sexual coercion- pressuring a person into sexual activity through harassment, manipulation, or threats (Lyons et al., 2022). Further, narcissism is strongly associated with self-serving cognitive distortions that are used to fuel beliefs that one is entitled to sexual gratification by whoever they choose (Bushman et al., 2003). Revenge pornography perpetration was also associated with childhood trauma, though this relationship is yet to be further examined.

Perpetration was also found to be associated with a number of motives including increased social standing or social exposure (i.e., to 'show-off); share amongst friends; for entertainment, to obtain advice and being unaware of consequences; and in response to relationship breakdown. The varied motivations reported across the studies demonstrate the extent to which revenge pornography perpetration occurs beyond the paradigmatic malicious ex-partner scenario (which is associated with the term 'revenge pornography')- with individual often self-reporting being motivated by many differing and overlapping factors such as, amusement/enjoyment, social status building etc. (Harper et al., 2021). This suggests that revenge pornography practices appear to have become a normalised part of relationships between and perceived to be an enjoyable practice. Additionally, amongst males, revenge pornography appears to play a role in social status, whereas for females it operates as a form of social reciprocity (i.e., obtain advice from friends). This provides a further understanding of the role revenge pornography practices plays within social and close relationships, which can be used in the planning and development of interventions. The finding that content is frequently shared amongst peers was not surprising considering the importance of peers in influencing attitudes towards risky online behaviours (Vannucci et al., 2020). In an effort to belong and be accepted, individuals may perpetrate behaviours that they don't necessarily agree with (Zhong et al., 2020). Therefore, it could be argued that the need for social acceptance could present a risk for adolescents. This has been researched particularly in relation to sexting practices (Pavón-Benítez et al., 2022; Reed et al., 2016; Van Ouytsel et al., 2014). The influence of group processes also appears to be relevant to this phenomenon. For individuals that share amongst their friends, behaviours might be motivated by the belief that the content stays between friends or as a social

exchange (Hu et al., 2023). Although, the motivation to 'revenge' following a relationship breakdown/conflict might explain why current or former partners were most likely to be targeted it wasn't a dominant motive/consistent finding (Powell et al., 2019; Powell et al., 2022). Nevertheless, this suggests that for some individuals revenge pornography might be used as an extension of abusive and violent behaviours committed against partners/close ones. Different motivations were noted for gender, age, sexuality, and relation to victim; suggesting further analyses are needed to these differences in motivations (across demographic groups), which are not fully understood and require further empirical exploration.

The relationship between perpetration and victimisation found across five studies suggests that it is possible that one may be a response or reaction to the other, although further research is required to understand this relationship. Nonetheless, it reflects the complexity of revenge pornography behaviours, as well as, indicates how revenge pornography practices are normalised.

Engaging in risky behaviours such as excessively accessing pornography and online dating might provide more opportunities to perpetrate revenge porn. Rape and degrading practices within pornography might normalise sexual violence towards victims (Henry & Flynn, 2019). Linked to this was sexting behaviours. Sexting behaviours, whereby participants shared and received sexual images, was a consistent finding in relation to revenge pornography perpetration. Engaging in Sexting behaviours could minimise the risk perception about revenge pornography perpetration (Henry et al., 2020). Individuals might also exchange images as a reciprocal activity. The same could be said for excessive pornography use and unsafe sex, which were both associated with perpetration. It might also reduce understanding of boundaries and result in desensitisation to unhealthy sexual behaviour (Henry & Flynn, 2019). In addition, alcohol generally increases vulnerability to violent or aggressive behaviours (Foran & O'Leary, 2008).

Perpetration was also associated with lack of self-control, which is associated with not considering potential consequences and limits an individual's ability to act effectively and appropriately in situations where problem solving is required (Powell et al., 2022). Similarly,

emotional instability, which is also linked to the tendency to act rashly in response to negative emotions, was associated with perpetration (Blagden et al., 2017). Psychological difficulties were also identified as a predictor for perpetration. It is possible that individuals with symptoms of depression and anxiety and may be more vulnerable to engage in behaviours that are accepted by others; thus, increasing a sense of 'belongingness' (Hagerty et al., 1996). An alternative assumption is that individuals with depression and social anxiety engage in harmful online behaviours as a form of escapism (i.e., distraction) or as a way to enhance their self-esteem (Gilbert et al., 2009; Jouhki et al., 2022). As anxiety and depression is generally associated with low self-esteem, perpetration of revenge pornography could be conceptualised as a form of online validation from others, serving as a positive social reinforcement (Gilbert et al., 2009; Lyn & Burton, 2005). These findings suggests that motivation to perpetrate might be more about negative attributes, traits, beliefs, and intentions of the perpetrator than sexual gratification like other forms of sexual violence.

Overall, this review identified a number of factors (i.e. individual characteristics/motivations) associated with revenge pornography perpetration that can be understood within the frameworks discussed in chapter one. For example, they can be grouped into Jessor's (1987) 'Problem behaviour theory': individual factors (i.e., age, gender, sexuality, personality variables, offensive supportive attitudes, beliefs, and values), environmental factors (peer pressure, friendship structures, living in rural areas), as well as, Dutton's (1988) 'Nested Ecological Model' four levels: macrosystem/cultural level (i.e., attitudes, exosystem/socioeconomic level (peer influence, living environment), microsystem/family level (i.e., childhood trauma), and ontogenetic/individual level (difficulties managing emotions, anxiety symptoms, depressive states), where within each 'level' or 'factor' other theories (i.e., social learning theory, attachment theory, Motivation-facilitation model of sexual offending) can be drawn upon to explain these factors further. the factors are also implicated in Ward and Siegert's (2002) pathways model, which suggests that emotional, intimacy, cognitive and arousal deficits contribute to contact sexual offending behaviours and reflected in the works/reviews of several researchers (see Beech, 2013; Elliott et al., 2009; Mann et al., 2002; Middleton et al., 2006; Osbourne & Christensen, 2020). Collectively, these frameworks help develop a theoretical understanding of revenge

pornography perpetration, and highlights factors (i.e., risk and protective factors) that need to be considered when developing interventions and treatment pathways for perpetrators.

2.8.3. Implications and recommendations

Following from above section, the findings of this review could have implications for practice. As aforementioned, a number of factors are likely to interact with one another to create a vulnerability pathway to perpetration. Because of this, a 'one-size-fits-all' response/intervention might not be appropriate. Instead, a multi-factorial approach that considers targeting the risk factors (highlighted throughout the findings section of this chapter) is recommended. In the first instance, this might include providing interventions to groups of the population that are consider to be at a 'greater risk' of perpetrating this abuse. This includes, adolescents and young adults, individuals with low education attainment, those that live urban-rural areas or have a disability or individuals, and individuals that frequently access pornographic material/ websites that host non-consensual material and frequently engage in risky behaviours. These interventions may be effective being rolled out in education establishments, community/ workplaces for the wider public to also access. They could also be rolled out in the form of public campaigns from the government and charities. Although it is noted that Refuge (2022) launched an awareness campaign about revenge pornography and online domestic, it has not been widely publicised. Thus, it is important that more educational campaigns are launched to ensure different groups in the community are educated about revenge pornography practices, in particularly as technology emerges and it becomes easier and more available to acces (Harper & Hogue, 2014).

For interventions focusing specifically on adolescents and young adults, it is important to consider that adolescence is a period where individuals are forming a sense of identity including personal views and boundaries of what is acceptable within relationships. As such, increased understanding of boundaries, consent, and safety of online practices might be helpful. Equally, education around the legal consequences of non-consensual practices might reduce the perception that is a normal and enjoyable practice amongst peers, as evidenced in this review. Whilst it is acknowledged that motives for perpetrate vary and as a result of this, perpetration doesn't always lead to serious ramifications or legal

interventions, it is important that such individuals are still aware of the seriousness and severity of this abuse.

Considering the review found that revenge pornography is not always perpetrated for malicious reasons, but sometimes for a need to engage in fun or social exchanges for both adolescents and adults, it would be important to educate the public on the seriousness of this abuse. It might also be important for interventions increase individuals' knowledge on the different ways this abuse is perpetrated (i.e., forwarding non-consensual content, sharing directly from a text message etc.) and motivations for this that doesn't associate the abuse solely as an act of 'revenge' in intimate relationships.

Furthermore, the association between attitudinal variables and revenge pornography practices could have implications for interventions targeting attitudes and cognitions associated with perpetration. Where research has found education programmes to have reduced level of victim blaming and alter perceptions of other forms of sexual violence and abuse, it may also be applied to interventions for revenge pornography. Attitudinal factors can also be targeted using cognitive-behavioural treatments that have been found to be effective for individual convicted of sexual offences (Blagden et al., 2017; Mann et al., 2002). A final recommendation is made in relation to the definition of revenge pornography. It is noted that the term 'revenge pornography' contributes to misunderstandings of the motivations for perpetration, as it implies that the victim did something worthy of retribution. This fails to capture other motivations for perpetration. Thus, it is recommended that a more unified and consistent definition is developed in research, and applied to legal and political discussions (about this abuse). Harper at al. (2019) and Powell (2015) has proposed using the term the term non-consensual images, which researchers could build on.

2.8.4. Strengths and limitations

The findings of this review should be interpreted with caution due to some of the limitations identified. As aforementioned, the quality of the studies included in the review varied. Whilst a quality assessment was undertaken to ensure that the articles included met threshold, quality concerns remained. Majority of the included studies used university

samples, potentially leading to a more homogeneous and educated participant pool that cannot be generalised to community populations. An overrepresentation of students might also result in an underreporting of perpetration across other specific groups. Adopting more diverse recruitment techniques in order to widen the participant pool (i.e., participants from different employment and educational backgrounds and ages) would improve generalisability. In addition to this, all of the included studies were cross-sectional in nature, and because of this, the causal relationships found between revenge perpetration and the other variables could not be defined. That said, revenge pornography is mostly studied by questionnaire, since direct observation and case studies is challenging, due to the methodological and ethical issues associated with collecting information from individuals that have not be convicted of an alleged crime. However, future research may attempt to use longitudinal studies to explore a possible causal relationship between revenge pornography perpetration and the variables identified.

Another limitation concerned the varying methodologies and terms used to describe and examine revenge pornography behaviours. Some studies only considered one form of revenge pornography (i.e., distribution or threatening), whereas others consider a broader range of revenge pornography behaviours (Powell et al., 2019; Powell et al., 2022). The different terms used may have influenced participants' responses. For example, the term revenge pornography implies that the behaviour is driven by the desire to seek revenge, while 'abusive sexting' may imply abusive behaviours within close relationships. As aforementioned, it is imperative that future research provides a uniform definition and clear examples of revenge pornography behaviours, and psychometric tools to measure this.

All studies used self-reported measures, which may be affected by impression management and/or socially desirable responding, especially given the sensitivity of revenge pornography as a topic. Only two studies accounted for social desirability. Future research should utilise a social desirability measure and further account for any biases in responding when using self-reported measures. In addition, the review was limited to studies written in English due to time constraints. Although the search strategy did not identify any non-English papers, it is possible that revenge pornography research has been conducted in other countries. Future

studies should include publications (not written in English) to provide better understanding of revenge pornography perpetration across different demographics, to reduce cultural bias.

Finally, the systematic review was only able to include thirteen studies, highlighting the paucity of literature surrounding revenge pornography practices. Thus, it is recommended that more research is carried out.

2.9. Conclusion

The aim of this review was to increase the knowledge of factors associated with revenge pornography perpetration. To the author's knowledge this was the first piece of research to explore this. In doing it so, it identified a number of factors that were linked to the greater likelihood of engaging in/ motivations for revenge pornography perpetration. These (factors) were synthesised into frameworks of sexual offending behaviours to aid a better understanding. This illustrated the complexity of revenge pornography perpetration, where a number of factors are likely to interact with one and another to increase the vulnerability/motivation to perpetrate. However, the limited evidence provided highlights the need for further research. In particular, future research should seek to explore and expand upon these frameworks for a better understanding of revenge pornography perpetration. Only then, it should be possible to provide implications for interventions and treatments for such individuals. The review also highlighted a need for studies to follow a rigorous methodology, to mitigate some of the limitations identified in this review and increase the generalisability of the findings of this review. Further recommendations and implications may arise from future research.

CHAPTER 3: METHODOLOGY AND PSYCHOMETRIC CRITIQUE

Abstract

This chapter details and critiques the methodologies and psychometric tools used within this thesis. This chapter is split into two sections. The first section details and reviews the research methodology including selection of participants and the data collection. The second section of this chapter critiques the psychometric tools used in chapters four and five to measure attachment styles and mentalizing capacities of revenge pornography perpetrators and victims. Overall, this chapter provides a clear rationale for the methodological approach undertaken for the two empirical studies presented in chapters four and five, whilst highlighting limitations that must be considered in light of the limited empirical research using offending samples.

3.1. Introduction

The overall aim of this thesis was to conduct an investigation into revenge pornography behaviours. This included empirically examining the attachment styles and mentalizing capacities) associated with revenge pornography perpetration and victimisation in chapters four and five. This section reviews the overall methodology for the empirical studies within this thesis.

3.2. Methodology

The empirical studies presented in chapters four and five were run as a single study/online survey with the same participants completing all measures, in order to reduce individual variance between the two studies. As access to revenge pornography perpetrators and victims is often limited considering the sensitive nature of topic, it was considered reasonable to use the same sample. To note, data collected was divided and analysed separately.

3.2.1 Sample

A power analysis is considered an important process in determining the appropriate number of participants required to detect an effect of a given size. As such, a priori power analysis using G*Power3 (Faul, Erdfelder, Lang, & Buchner, 2007) was conducted. This showed that an effective sample size for the two studies would be 192 participants. This would give an expected medium effect size of .25 and n expected medium effect size of .25 and $p < .05$, leading to an acceptable power of .09., in order to conduct the appropriate statistical analyses for each study (i.e., Chi-squares, T-tests and analysis of variance).

The sample recruited consisted of adults, aged 18 or older, that lived in the United Kingdom and were fluent in English. A decision was made to only include participants over the age of 18, despite revenge pornography perpetration and victimisation being prevalent amongst adolescents and young people. This was due to ethical concerning the use of adolescents and young people in research of sensitive nature. The CPS recommends that in the cases of young people, other laws/legislations (i.e. indecent/sexual images of children) should be considered. Further, participants had to reside in the United Kingdom as the study examined/focused on behaviours captured under Section 33 of the Criminal Justice and

Courts Act 2015. Participants were recruited through an opportunistic and convenience sampling using social media platforms Twitter (using the tags revenge pornography and image-based sexual abuse) and Reddit. The sampling method was chosen, in order to, mitigate a common methodological limitation in the revenge pornography literature and to recruit a diverse population that would be reflective of a 'public' sample. This ensured the findings would be more representative of general community sample than relying on student samples.

In total, 843 participants aged over 18 participated in the study. Two participants were excluded due to non-completion and/or missing information. Males accounted for 62.9% of the sample, and females accounted for 37.1% of the overall sample (n= 841). The age of participants ranged from 18 to 45 years old, with a reported mean age of 23.6 years and a standard deviation of 4.11.

3.2.2. Design

A cross-sectional independent groups design was employed. Cross-sectional designs are used to explore pattern of relationships amongst variables. This allows researchers to determine the direction and strength of the association between such variables. Cross-sectional studies can be undertaken on a broader scale and use a large pool of participants to increase the generalisability of the findings to a wider population. Although, cross-sectional studies are unable to determine the causality between factors, some inferences can be drawn from potential associations. Cross-sectional studies have been crucial in identifying potential causes and explanations for revenge pornography perpetration and victimisation. It is also worth noting that revenge pornography behaviours are mostly examined using cross-sectional studies since direct observation and case studies is challenging. A reason for this is the accessibility to such individuals.

3.2.3. Procedure

As aforementioned, the recruitment and selection of participants that have perpetrated or experienced revenge pornography behaviours it not straightforward, and there are ethical issues to consider. Thus, online platforms were used to publicise the survey and recruit

potential participants. This included publicising the survey using hash-tags and forums within Twittter and Reddit that discussed revenge pornography and other online sexual behaviours. Individuals interested were able to access a link to the survey. In the first instance participants were directed to the initial page of the survey, which contained information about the study, instructions, confidentiality details, and opt-out procedures if at any point participants no longer wished to be considered for the study (see appendix G). Participants were informed they had a week to contact the author (and provide their unique code) if they no longer wanted their data to be used in the study. Once participants consented to participate in the study, they were automatically assigned to a unique code, (referred to as a receipt number). The unique code allowed the author to anonymise responses. All participants completed the single online survey. Within this survey, participants completed a demographic questionnaire followed by the Experiences in Close relationships questionnaire (empirical study 1, chapter four), the Reflective functioning questionnaire (empirical study 2, chapter five) and the Balanced Inventory of Desirable Responding questionnaire (used to explore to what extent participants provide socially desirable responses (either over-reporting positive or under reporting negative behaviour).

3.2.4. Ethical approval and considerations

Ethical approval was granted by University of Nottingham Research Ethics Committee (see appendix F). The following ethical guidelines were followed: informed consent, participant anonymity, right to withdrawal following participation, debriefing and post participation support (i.e. helpline details).

3.3 Psychometric measures

This section provides a critique of the psychometric tools used to measure adult attachment styles and mentalizing capacities. Self-reported measures of adult attachment styles include the Experiences in Close Relationships (ECR; Brennan et al., 1998), Experiences in Close Relationships-Revised (ECR-R; Fraley et al., 2000), Experiences in Close Relationships-Short Form (ECR-SF; Wei et al., 2007), Attachment Style Questionnaire (ASQ; Feeney et al., 1994), Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) and Questionnaire for Attachment Assessment- Revised (QAA-R; Hanak, 2004). These measures examine where individuals fall on the two adult attachment dimension attachment anxiety and attachment

avoidance, with low scores across both dimensions indicating a secure attachment. Mentalization is also measured using self-reported measures. These include the Reflective Functioning Questionnaire (RFQ; Fonagy et al., 2016) and the Mentalization Questionnaire (MZQ; Hausberg et al., 2012). For the purpose this thesis, only the psychometric properties, of the ECR, ECR-R, ECR-SF, RFQ and MZQ were examined.

3.3.1 Experiences in Close Relationships

The Experiences in Close Relationships (ECR) is one of the most commonly used tools to measure adult attachment (Pedersen et al., 2015; Ravitz et al., 2010). The ECR was developed using items from an exploratory factor analysis of 323 items designed to measure attachment orientations. The analysis was conducted using a sample of 1086 university students. The 36 items selected for the ECR were found to have high correlations with the two dimensions of adult attachment: attachment anxiety and attachment avoidance. The ECR has two subscales measuring these two dimensions of attachment. Each subscale has 18 items, which require a rating from a 7-point likert scale. The rating ranges from *strongly disagree* to *strongly agree*. The scores on each subscale reflect the extent to which an individual exhibits thoughts and behaviours characteristic of the attachment dimension. High scores on both subscales indicate attachment anxiety and avoidance, whereas low scores on both dimensions indicate a secure attachment orientation.

The ECR is accessed online and is easy to administer. The scores for each item range from one to seven, with some items requiring reverse scoring. Items for each subscale are then averaged to compute a score for attachment anxiety and attachment avoidance. The first 18 items are used to compute a score for the attachment anxiety dimension, while items 19-36 are used to compute a score for the avoidance dimension. Items 9 to 11 and 36 require reverse scoring. The minimum and maximum score for each subscale is 18 and 126 respectively. Each subscale is viewed a continuous variable. This is because variation in attachment is best understood on a graded continuum than categories. Continuous scores/analyses also increase statistical power (Brennan et al., 1998). As aforementioned, high scores indicate an insecure attachment style, while low scores on both dimensions represent a secure attachment style. Although there are no instructions for what classifies as a high or low score, scores can be compared to a normative sample. However, authors

have emphasised that these norms are calculated in reference to particular samples and may not be representative of the general population. Individuals' scores can also be interpreted using Bartholomew's four attachment styles: secure (low attachment anxiety and low attachment avoidance), preoccupied (high attachment anxiety and low attachment avoidance), dismissive (low attachment anxiety and high attachment avoidance), and fearful (high attachment anxiety and high attachment avoidance). To examine if a particular group of individuals (e.g., individuals who have engaged in revenge pornography behaviours) have higher scores, indicating greater attachment avoidance and attachment anxiety, in comparison to another group of individuals, basic correlational methods (i.e., correlations, multiple or logistic regression) are recommended. From this, researchers are able to make appropriate statistical comparisons. This guidance was used to score and analyse the data collected in chapter four.

With regards to the ECR's utility, it was developed with the purpose of examining attachment styles in adult romantic relationships. Although the items can be adapted for other types of relationships, this is not a recommended practice due to concerns about reliability and validity of adapted or revised items (Cappelleri et al., 2014). The ECR has been predominately used with university samples, with limited use with clinical samples. As a result, it has been recommended that the questionnaire is used as a screening tool for individuals' attachment styles in combination with qualitative methods of data collection (i.e., the AAI) and other clinical practices (i.e., structured clinical interview). This can in turn aid better understanding of an individual's attachment style and support the use of attachment-based practices.

3.3.2. Experiences of Close Relationships-Revised

The Experiences of Close Relationships-Revised (ECR-R) is an adaptation of the ECR. It was developed by Fraley et al. (2000), using items from the same item pool as the ECR and psychometric and statistical techniques based on the item-response theory (Zanon et al., 2016). The 36 items selected, include 20 of the original ECR items and 16 different items. The ECR-R consists of 36 items including 20 of the original ECR items and 16 different items. The 16 items replace 11 of the original ECR avoidance scale items and 5 of the original ECR anxiety scale. Like the ECR, the ECR-R has 2 subscales: attachment anxiety and attachment

avoidance, consisting of 18 items each that are scored on a 7-point likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Low scores on both scales represent attachment security. The ECR-R is also accessed online and is easy to administer: respondents are required to rate each item. The ECR-R uses the same method of scoring as the ECR and scores can be interpreted using Bartholomew's four attachment styles.

3.3.3. Experiences of Close Relationships –Short Form

The Experiences of Close Relationships –Short Form (ECR-SF) was developed by Wei et al. (2007) in an attempt to provide a shorter and more efficient version of the ECR with good reliability and validity. The ECR-SF consists of 12 items that measure attachment anxiety and attachment avoidance. The items used in the ECR-SF were selected from an exploratory factor analysis of each dimension in the ECR. Like the ECR and ECR-R, each item in the ECR-SF is scored using a 7-point likert scale, with responses ranging from *strongly disagree* to *strongly agree*. Low scores on both scales represent attachment security, while high scores indicate an insecure attachment orientation.

The ECR-SF adopts a similar scoring method. Items 2, 4, 6, 8 ,10 and 12 compute a score for the attachment anxiety subscale, while items 1, 3, 5, 7, 9, and 11 compute a score for the attachment avoidance subscale. In addition, items 1, 5, 8 and 9 are revered scored. The minimum score for each scale is 7 and the maximum score 42. In comparison to the ECR and ECR-R, the ECR-SF is easier to administer and score. The ECR and ECR-R have more items to score, which increases the chances of human error.

3.3.4.Reflective Functioning Questionnaire

The Reflective Functioning Questionnaire (Fonagy et al., 2016) is self-reported measure of mentalization capacity. It is predominately used for research. The RFQ measures two distinct types mentalization impairment: hypomentalization ('certainty') and hypermentalization ('uncertainty'). The RFQ was developed using items from exploratory and confirmatory factor analyses of 101 items, designed to measure mentalizing skills. The RFQ consists of two subscales: certainty (RFQc) and uncertainty (RFQu) and eight items in total. The items are scored on a 7-point likert scale ranging between *strongly disagree* and *strongly agree*. Each subscale contains six items. Of the 6 items on each subscale, two are

unique and four are shared across both subscales. The four-shared items are used to calculate scores on both subscales in opposite directions, whereas the other four items are unique to each subscale. For the RFQc subscale, items are recoded so that ratings between 1 and 4 are coded as 0, indicating good mentalization. In the case of the RFQu, the scoring is reversed: high results (4-7) are coded as 0 (good mentalization), while low results indicate mentalization impairment relating to this dimension (1 = 3, 2 = 2, 3 = 1). High scores on the RFQc scale indicates a tendency to hypermentalize- being too certain about/ using excessive interpretations about mental states, while high scores on the RFQu reflects a tendency to hypomentalize- adopting a more concrete style of thinking, in which there is little capacity to tolerate or understand one's own and others' mental states. A third type of mentalization impairment a described in the mentalization-based model (Bateman & Fonagy, 1999), teleological thinking, is not measured; instead it is assumed that this mentalization impairment is fuelled by an 'over-certainty' (reflecting hypomentalization) and a high uncertainty (reflecting hypermentalization; Duschinsky and Foster, 2021). Fonagy et al. (2016) have therefore operationalised hypomentalizing as an anticipated outcome of psychic equivalence/concrete thinking and teleological thinking where there is a focus on action and outcomes.

3.3.5. The Mentalization Questionnaire

The Mentalization Questionnaire (MZQ; Hausberg et al., 2012) measures various aspects of mentalization as described by Bateman and Fonagy (2012). The measure is also used as a repeated measurement of mentalization, in order to determine changes in mentalizing during the course of therapy. The MZQ consists of 15 items and four subscales that reflect the following mentalizing impairments: Refusing Self-Reflection (4-items); Emotional Awareness (4 items), Psychic Equivalence Mode (4-items); and Regulation of Affect (3-items). Each item is rated on a 5-point likert scale. All items are recoded to produce individual scores for each subscale, with high scores indicating good mentalization and low scores for individual subscales indicating mentalization deficits. The MZQ is easily available online and easy to administer.

3.4 Psychometric properties of the measures

3.4.1 Reliability

Reliability is an indication of how a measure produces reliable and consistent results across different samples and time scales. Internal consistency measures the correlations between different items on a measure and whether these items measure the same construct (i.e. attachment styles and mentalizing capacity). The Cronbach's alpha coefficient is considered the best measure of internal consistency (Tavakol & Dennick, 2011). An alpha coefficient of .70 or above indicates good internal reliability (Tavakol & Dennick, 2011). Test-retest reliability measures the stability and reliability of a measure over a period of time. Test-retest reliability is calculated by the correlation of scores at two separate time points. A high correlation (r=.70 or above) indicates good test-retest reliability. Having good internal reliability suggests results are reliable and not due to extraneous variables. To note, this critique focused on studies using the Cronbach alpha coefficient and Pearson's correlations formula.

3.4.2 ECR studies of Internal Consistency

Brennan et al. (1998) reported that the ECR had good internal consistency with coefficient alphas of .91 and .94 for the anxiety and avoidance subscales respectively. Studies have since found the ECR to be a reliable measure of adult attachment, with coefficient alphas ranging from .77 to .94 for the anxiety subscale and .74 to .95 for the avoidance subscale using American student samples (see table 3.1). Similarly, the ECR has revealed evidence for good internal consistency using other American populations, as demonstrated in table 3.2.

Although majority of research using the ECR has been conducted using American samples, the ECR has been translated in several languages, supporting its validity and consistency across cultures, ages, and different populations (see table 3.3). Further studies have demonstrated good internal consistency for the ECR with clinical samples. Picardi et al. (2011) examined the ECR's reliability in two Italian patient groups (with one group of patients having a formal diagnosis of psychosis) and at two different points of time: admission and discharge. Coefficients alphas ranged between .77 and 93 for both patient groups, at admission and discharge for the anxiety subscale. For the avoidance subscale,

coefficients alphas ranged between .84 and 91 for both patient groups, at admission and discharge. Other studies have reported good levels of internal consistency with online populations, with coefficients alphas ranging between 85. and .93 for the anxiety and avoidance subscales (Newman-Taylor et al., 2021; Shenkman et al., 2021; Skowron & Dendy, 2004; Van Lankveld et al., 2022; Van Lankveld et al., 2022).

Table 3.1- Examples of internal consistencies for ECR with American students.

Study	Sample size	Coefficient alphas (α)	
		Anxiety	Avoidance
Allen & Baucom, 2004	498	.91	.93
Barber & Cooper, 2008	185	.89	.88
Bartz & Lydon (2006)	59	.90	.90
Britton & Fuendeling (2005)	183	.92	.94
Brumbaugh & Fraley (2007)	97	.87	.87
Cash et al. (2004)	228	.94	.93
Crawford et al. (2006)	307	.93	.93
Conradi et al., 2006	1,012	.91	.94
Edelstein (2006)	137	.92	.93
Frei & Shaver, 2002	182	.90	.94
Gentzler & Kerns (2004)	328	.93	.93
Giliath et al (2008)	147	.92	.87
Goldstein et al (2008)	466	.90	.93
Langhinrichsen-Rohling (2008)	224	.90	.87
Langhinrichsen-Rohling et al. (2002)	277	.90	.92
Lindberg et al., 2012	100	.85	.89
Locke (2008)	60	.96	.93
Lopez (2001)	247	.91	.92
Lopez & Gromley (2002)	207	.92	.95
Lopez et al., 2002	127	.92	.91
MacDonald & Figueredo (2004-2006)	411	.89	.90
McGregor et al., (2005)	54	.91	.94
Noftle & Shaver (2006) Study 1	8318	.92	.93
Noftle & Shaver (2006) study 2	255	.89	.92
Rice et al., (2005)	241	.92	.94
Rodrigues & Kitzmann (2007)	63	.89	.93

Table 3.2- Examples of internal consistencies for ECR with different American samples.

Study	Other Samples	Sample Size	Coefficient alphas (α)	
			Avoidance	Anxiety
Bartz & Lydon, 2006 (study 3)	American adults	59	.91	.91
Butner et al., 2007	Couples	96	.86	.87
Dykas et al., 2006	Adolescents	177	.86	.92
Jerome & Liss, 2005	Adults	132	.91	.94
Levy et al., 2005 (study 1)	Outpatients	91	.89	.91
Parker et al., 2011	Adults accessing therapy	1,138	.90-.91	.90
Sanford & Rowatt, 2004	Married adults	79	.79	.89

Table 3.3- Examples of internal consistencies for ECR across cultures.

Study	Location	Sample Type	Sample size	Coefficient alphas (α)	
				Anxiety	Avoidance
Alonso-Arbiol et al., 2002	Basque Country	Students	602	.85	.87
Alonso-Arbiol et al., 2007	Basque Country	Adults	393	.83	.86
Alonso-Arbiol et al., 2007	Basque Country	Couples	92	.87	.86
Arpaci et al., 2017	Turkey	Students	450	.88	.77
Barbaro et al., 2017	Iran	Students	306	.83	.82
Ben-Ari & Lavee, 2005	Israel	Couples	496	.82	.82
Birnbaum, 2007	Israel	General population	176	.91	.87
Bradford et al., 2002	Australia	Couples	226	.88	.91
Brassard et al., 2007	Canada	Couples	520	.88	.87
Bretaña et al., 2020	Spain	Couples	274		.83
Bowles & Meyes, 2008	UK	Students	169	.92	.93
Butzer & Campbell, 2008	Canada	Couples	232	.89	.94
Chris et al., 2022	Romania	Adults		.94	.95
Conradi et al., 2006	Netherlands	Students	380	.88	.93
Conradi et al., 2006	Netherlands	General population	211	.86	.88
Conradi et al., 2018	Netherlands	Patients	103	.86	.88
Dang & Gorzalka, 2015	Canada	Students	412	.94	.94
Del Giudice & Angeleri, 2008	Italy	Students	200	.86	.91
Doba & Nadrino, 2020	France	Patients	61	.92	.94
Feniger-Schaal & Lotan, 2017	Israel	Students	48	.89	.78
Godbout et al., 2006	Canada	Couples	632	.86	.88
Guzmán-González et al., 2020	Chile	Students	1497	.89-.90	.88-.92
Kho et al., 2015	Australia	Older adults	89	.81	.88
Mallinckrodt & Wang, 2004	Taiwan	Students	30	.88	.91
McLean et al., 2014	Canada	Students	146	.94	.94
Monaco et al., 2021	Spain	Young adults	126	.92	.88
Nakao & Kato, 2004	Japan	Students	231	.87	.91
Nordahl et al., 2020	Norway	Pregnant women	168	.91	.90
Newman-Taylor et al., 2021	England	Students	79	.88	.88
Lang et al., 2016	Hungary	Students	1469	.91	.93
Lazarević et al., 2016	Serbia	Students	500	.84-.89	.84-.89
Li et al., 2009	China	Adolescents	198	.82	.74
Li et al., 2009	China	Professionals	459	.83	.75
Olssøn et al., 2010	Norway	Adults	437	.91	.91
Otway & Vignoles	UK	General population	119	.87	.92
Paiva & Figueiredo, 2010	Portugal	Students	551	.86	.88
Panaghi et al., 2014	Iran	Married adults	391	.89	.71

For test-retest reliability findings have ranged between r= .70 to 95. for both scales (Brennan et al., 2000). Mallinckrodt and Wang (2004) reported good 2-week test-retest reliability with Chinese students; r=.95 and .94 for the anxiety and avoidance subscales respectively. Similarly, Panaghi et al. (2014) found 2-week test-retest reliability of r= .87 for both subscales in Iranian married adults. With a sample of adults from Busque Country, Alonso-arbiol et al. (2007) reported 6-week test-retest of r=.75 for the avoidance subscale and r=.69 for the anxiety subscale. Picardi et al. (2011) also reported good retest reliability over period of 55 days with Italian patients. They further reported that the presence and/or severity of psychosis did not affect the re-test reliability, indicating the ECR may be a reliable attachment tool for patients with severe psychopathology. For longer retest intervals, Lopez and Gormley (2002) reported test-retest reliability of r=.68 for anxiety subscale and r=.71 for avoidance subscale over a six-month period in American students. Most recently, Sochos and Aliasas (2021), administered the ECR a year later after baseline, where coefficients were .83 for the anxiety subscale and .84 for the avoidance subscale. These findings indicate the ECR is reliable and consistent over a short period of time, but this may decrease over time. However, further studies would be necessary to confirm this due to the conflicting findings published.

3.4.3. ECR-R studies of Internal Consistency

Fraley et al. (2000) reported the ECR-R to have had good internal consistency with coefficient alphas of .94 and .95 for the anxiety and avoidance subscales respectively. Further studies have supported the ECR-R reliability, reporting coefficient alphas ranging between .92 and .95 for the anxiety subscale and .74 to .93 for the avoidance subscale with American university students (Fairchild & Finney, 2006; Sibley & Liu, 2004; Sibley et al., 2005). The ECR-R has also been found to have good internal consistency with student samples across different cultures (see table 3.4).

Table 3.4-Examples of internal consistencies for ECR-R with student samples

Study	Location	Sample size	Coefficient alphas (α)	
			Avoidance	Anxiety
Bonassi et al., 2021	Singapore	61	.93	.85
Dogan, 2010	Turkey	21	.90	.86
Feniger-Schaal & Lotan., 2017	Israel	43	.89	.78
Hanak & Dimitrijevic	Serbia	719	.90	.89
Murray et al., 2021	UK	148	.94	.95
Özmen & Güzel., 2022	Turkey	185	.90	.89
Sibley & Liu, 2004	New Zealand	141	.95	.93
Sibley et al., 2005	New Zealand	300	.93	.94
Szielasko et al., 2013	Canada	190	.91	.87
Tsagarakis et al., 2007	Greece	291	.91	.91
Wang & Mallinckrodt., 2006	Chinese and Taiwanese students in America	104	.87	.89
Watt et al., 2020	Canada	1,042	.91	.93
Wongpakaran et al., 2011	Thailand	400	.89	.90-.91

There is also evidence for ECR-R's internal consistency with other populations and cultures (see table 3.5).

Table 3.5- Examples of internal consistencies for ECR-R with cross populations

Study	Location	Type	Sample size	Coefficient alphas (α)	
				Anxiety	Avoidance
Bindon & Hilsenroth., 2020	America	Outpatients	91	.93	.90
Busonera et al., 2014	Italy	Adults	1,150	.88	.79
Calvo et al., 2021	Italy	Homosexual men	70	.89	.90
Captari et al., 2021	America	Adults	374	.94	.92
Gray & Dunlop., 2017	America	Couples	125	.88	.91
Hanak & Dimitrijevic., 2013	Serbia	General population	259	.88	.91
Katz & Hilsenroth., 2017	America	Outpatients	30	.90	.93
MacDonald et al., 2015	America	Healthcare professionals	100	.98	.93
Rossi et al., 2022	Italy	Patients	185	.91	.94
Sekowski, & Prigerson., 2022	Poland	Adults	258	.94	.85
Sibley & Liu, 2006	New Zealand	Adults in relationships	76	.93	.91
Sibley & Overall, 2007	New Zealand	Adults in relationships	121	.92	.93
Sina et al., 2018	Iran	Couples	200	.88	.89
Ünübol et al., 2022	Turkey	General population	24,380	.83	.85
Verin et al., 2022	Australia	Patients	48	.90	.79

Other studies have found good internal consistency with clinical samples, with coefficients ranging between .90 to .93 for the anxiety subscale and .79 to .94 for the avoidance subscale (Bindon & Hilsenroth., 2020; Katz & Hilsenroth., 2017; Rossi et al., 2022; Verin et al., 2022), as well as, online samples with reported coefficients ranging between .90 .95 for anxiety subscale and .92 and .94 for the avoidance subscale (Mount, 2005; Vicary & Fraley, 2007)

The ECR-R has also demonstrated good short-term (test-retest reliability in student populations (see table 3.6). However, no study has examined the ECR's test-retest reliability over long period (i.e., 12 weeks or more) and all studies reporting test-retest values have consisted of university samples.

Table 3.6- Examples of retest reliability scores for ECR-R (in student samples)

Study	Region	Time period	Retest-reliability scores (r=)	
Dogan, 2010	Turkey	12 weeks	.82	.81
Hanak & Dimitrijevic	Serbia	4 weeks	.87	.81
Tsagarakis et al., 2007	Greece	3 weeks	.88	.85
Wongpakaran et al., 2011	Thailand	6 weeks	.72	.77

3.4.4. ECR-SF studies of Internal Consistency

Wei et al. (2007) found good internal reliability for the ECR-SF, with coefficients ranging between .77 and .86 for the anxiety subscale and .78 to .88 for the avoidance subscale. Similarly, studies using American students have reported coefficient alphas ranging from .71 to .92 for the anxiety subscale and .77 to .93 for the avoidance subscale (Bishop, 2018; Drouin & Landgraff, 2012; Drouin et al.,2017; McDermott et al., 2015; Norris et al., 2012; Pereira et al., 2014; Slotter & Gardner, 2012; Weisskirch & Delevi., 2011; Weisskirch et al., 2016). Other studies using have also found good internal consistency with different samples and across culture including: American general population (α=.70 for anxiety, α=.82 for avoidance); American Carers (α=.74 for anxiety, α=.73 for avoidance); Portuguese cancer patients (α=.77 for anxiety and avoidance subscales); Dutch cancer patients (α=.83 for anxiety and avoidance subscales); and Norwegian patients (α=.81 and .83 for anxiety and

avoidance subscales; Cherry et al., 2018; Do Rosário Ramos Nunes Bacalhau et al., 2020; Hillen et al., 2014; Randall & Butler, 2013).

However, other studies have found much lower coefficients for the anxiety subscale in samples including American women (α=.69); American Couples (α=.55); German couples (α=.53) and an online sample with respondents from the UK, Netherlands, Germany and 'non-European countries' (α=.68; Alves et al., 2015; Doumen et al., 2012; Petrowski et al., 2020; Vollmann et al., 2019; Wickham., 2013). Similarly, Stern et al., (2022) reported poor internal consistency for both scales with alpha coefficients of .64 and .63 for the anxiety and avoidance subscales respectively, for adolescents. In addition, to the author's knowledge, no studies have examined the ECR-SF's internal consistency using clinical samples. These findings suggest that the anxiety subscale has weaker items, in comparison to the avoidance subscale. It also indicates that the ECR and ECR-R have superior psychometric properties, in terms of internal reliability. This may be due to limited research base.

The ECR-SF's test-retest reliability also lacks evidence. To date and to the author's knowledge, only the ECR-SF's authors have examined its test-retest reliability, over six-month period. They reported scores of *r*=.80 for anxiety subscale and *r*=.83 for avoidance subscale (Wei, et al., 2007).

3.4.5. RFQ studies of Internal Consistency

The RFQ has been found to high internal consistency, with reported coefficient alphas of .75 for the full scale (Woźniak-Prus et al., 2022). Satisfactory validity is also reported for the two subscales, with coefficient alphas ratings of .63 to .77 for the RFQu subscale, and .67 to .65 for the RFQc subscale (Fonagy et al., 2016). Badoud et al. (2015) examined the RFQ's reliability with French adults and adolescents. For the RFQc subscale, coefficients alphas ranged between .71 and .74, and for the RFQu coefficients alphas ranged between .64 and .67. Morandotti et al. (2018) reported the RFQ subscales demonstrated good internal consistency, with Cronbach's alpha coefficient of 0.77 for RFQ_U and 0.75 for RFQ_C. More recently, Acher et al. (2022) reported good internal consistency of the RFQc subscale for the non-clinical sample (α = .80) and for patients with first-episode psychosis (α = .72). The internal reliability of the RFQu subscale for the present non-clinical (α = .76) and patient

sample (α = .73) was also good. Other studies have found the RFQ subscales to have good internal consistency with: Canadian expectant parents (α=.76 for RFQu, α=.78 for RFQc; Persian students (α=.62- .66 for RFQu, α=.70-.75 for RFQc); Polish students (α=.60 for RFQu, α=.62 for RFQc; Anis et al., 2020; Gambin et al., 2020; Mousavi et al., 2021; Vahidi et al., 2021).

For test-retest reliability findings have ranged between r= .81 to .85 for both subscales (Morandotti et al., 2018). Badoud et al. (2015) reported a 3-week test-retest reliability of r=.70 for the RFQc and r=.54 for RFQu, while Fonagy et al. (2016) reported a 3-week test-retest reliability of r=.84 and r=.75 for the RFQu and RFQc subscales respectively. Mousavi et al. (2021) reported a 7-week test-retest of .78 for RFQu and .81 for RFQc with Persian students.

3.4.6. MZQ studies of Internal Consistency

In a validation study conducted with psychiatric patients (n=424), Hausberg et al. (2012) reported that the MZQ had acceptable internal consistencies with coefficient alphas ranging between .54 and .72 for the individual subscales, and .81 for the full scale. Gagliardini and Colli (2019) found that the MZQ demonstrated good internal consistency with coefficient alphas of .68 for the refusing self-reflection and emotional awareness subscales; .57 for the psychic equivalence mode subscale; and .60 for the regulation of affect subscale. Further studies have demonstrated good internal consistency for the full scale across different populations including Italian adolescents (α=.75); Italian adults (α=.87); German patients with Crohn's disease (α=.85); patients with schizophrenia (α=.75); and Korean adolescents (Engel et al., 2021; Ponti et al., 2019; Raimondi et al., 2021; Song & Choi, 2017). For test-retest reliability Hausberg et al. (2012) reported r= .76 for the full scale.

3.5. Validity

Validity is how accurately a tool measures the construct that needs to be measured. Face validity determines whether a measure appears to be measuring what it is intended to, although it is based on subjective assessment. Construct validity examines whether a tool measures what it claims (i.e., there is a theoretical construct that explains the tool's results Kline, 1986). Convergent validity, a subtype of construct validity, concerns with whether

measures of the same construct are related. To examine construct and convergent validity, person correlations are calculated between measures and other conceptually related variables.

3.5.1 ECR

The ECR appears to have high face validity; because it is clear what construct it is measuring. However, high face validity can make the ECR more susceptible to socially desirable responses/ impression management. Construct validity of the ECR has also been established. Specifically, the ECR has been found to have significant correlations with constructs that are theoretically related to adult attachment including: self-esteem; confidence; care seeking communication problems; poor problem solving; conflict; relationship distress; dependence; abandonment fears; depression; negative mood; negative emotions; disconnection; interpersonal stress; vulnerability for psychopathology; identity problems; identity distress; incoherence sense of self; distancing behaviours; sexual dissatisfaction; low romantic excitement and poor sexual functioning (Alonso-Arbiol et al., 2007; Bouaziz et al., 2013; Brennan et al., 2000; Captari et al., 2021**;** Conradi et al., 2006; Dang & Gorzalka, 2015; Mclean et al., 2014; Paiva & Figueiredo, 2006; Paiva & Figueiredo., 2010; Picardi et al., 2000; Shelton & Wang, 2018; Vilchinsky et al., 2010; Wei et al., 2004; Wei et al., 2006; Wei et al., 2007; Zakalik & Wei, 2006). These findings are in line with the literature that associates anxiety attachment with depression and distress in relationships, and avoidance attachment with self-reliance and discomfort in relationships. It also conceptualises anxiety and avoidance attachment as having a negative working model of self and others (Simard et al., 2011).

In addition, Mclean et al. (2014) reported significant positive correlations between the attachment avoidance subscale with the emotional inhibition schema, whereas the anxiety subscale positively correlated with the abandonment and impaired autonomy schemas. Similarly, Simard et al. (2001) reported the anxiety subscale correlated significantly with the abandonment schema. A study by Paiva and Figueiredo (2010) also reported significant moderate to high correlations with other conceptually-related measures including the Personal and Relationships Profile (PRP) and Attitudes about Significant Relationships (ASR), which measure quality and attitudes in romantic relationships. They found that the anxiety

and avoidance subscale significantly correlated with the following subscales of the PRP: conflict, communication problems, dominance, and relationship distress. The avoidance subscale negatively correlated with commitment. Avoidance on the other hand, negatively correlated with commitment. Mallinckrodt and Wang (2004), on the other hand, reported that the anxiety subscale significantly correlated with fear of intimacy with a sample of Chinese Students.

Convergent validity has also been established through significant correlations with other conceptually related measures. Specifically, research has found correlations between measures of attachment and the ECR's subscales (Alonso-Arbiol et al., 2007; Conradi et al., 2006; Guzmán-González et al., 2020; Lafontaine et al., 2016). More recently, Stöven & Herzberg, (2021) reported that State Adult Attachment Measure (SAAM) subscales had significant positive correlations with the anxiety and avoidance subscales. Specifically, SAMM's anxiety subscale correlated with ECR's anxiety, and SAAM's avoidance subscale correlated with ECR avoidance, indicating good convergent validity.

3.5.2. ECR-R

The ECR-R also has good face validity because it is clear what it is measuring. Further, it has good construct validity, with reported significant positive correlations with measures of attachment; mentalization, models of self and others; interpersonal functioning (including interpersonal problems); personality pathology; psychopathology; defence mechanisms; identity and individual perceptions (Bindon & Hilsenroth, 2020; Busonera et al., 2014; Captari et al., 2021; Fairchild & Finney, 2006; Kooiman et al., 2013; Szielasko et al., 2013; Wongpakaran et al., 2011). Specifically, Szielasko et al. (2013) examined the ECR-R's construct validity using the Sexual Relationship Measure, which measures attachment styles with sexual partners. They found that the anxiety subscale correlated the game-playing, possessive, exchange and negative sexual approaches items; indicating good construct validity. In contrast, Wongpakaran and colleagues (2011) found that deleting some items of the Thai translated ECR improved its' construct validity. This suggests that translating items may reduce the ECR-R's validity. Researchers should therefore consider the appropriateness of translating items.

Nevertheless, the ECR-R has showed good convergent validity through significant correlations with other measures of adult attachment including the Relationship Questionnaire (RQ), the Relationship Questionnaire–Clinical Version (RQ–CV) and Revised Questionnaire for Attachment Assessment (Hanak & Dimitrijevic, 2013; Wongpakaran et al., 2021). Wongpakaran et al. (2021) found the anxiety and avoidance subscales significantly correlated with the RQ's dismissive item, and anxiety subscale correlated with the RQ's fearful item. The anxiety subscale also significantly correlated with RQ's model of self, whilst the avoidance subscale correlated with RQ's model of others. A further study by Bindon and Hilsenroth (2020), found the anxiety subscale correlated with QAA-R's anxiety items, including negative model of self and others and the avoidance subscale correlated with RQ's avoidance subscale, as well as, negatively correlated with QQA-R's using secure base item. Thus, providing further support for good convergent validity.

3.5.3. ECR-SF

The ECR-SF SF's items appear to measure the constructs that the questionnaire was designed to measure. This indicates that the ECR-SF has good face validity. With regard to construct validity, the ECR-SF has been found to positively correlate with conceptually-related measures including the Self and Perceived- Partner Authenticity in Relationship Scale-Short form and the Hospital and Anxiety Depression Scale subscales, supporting the well-established association between attachment insecurity and psychopathology and negative models of others (Wickham et al., 2015). Further evidence of construct validity is reported by Richards and Schat (2011), who found correlations between ECR -SF subscales and negative affectivity and the big five personality dimensions. Similarly, Wei et al. (2007) reported correlations between the ECR-SF subscales and depression, anxiety, interpersonal distress, loneliness, fear of intimacy, comfort with self-disclosure, psychological distress, emotional cut-off, and emotional reactivity.

For convergent validity, Wei et al. (2007) found that the ECR-SF and the ECR examined the same constructs; indicating good construct validity and similar psychometric properties. However, it should be noted that the study was conducted by ECR-SF authors and they may report findings that favour the validity of the measure. Nevertheless, Imran et al. (2020)

found high significant correlations between ECR-SF's avoidance and anxiety subscales and the RQ preoccupied, fearful and dismissing subscales.

3.5.4. RFQ

There is limited evidence regarding the RFQ's validity in comparison to the evidence presented for the measures for the measures of adult attachment styles. It is important to acknowledge that the RFQ is a new measure and therefore less data and studies exist to determine its validity as a measure of mentalizing deficits. Despite this, the RFQ appears to have good construct validity, with reported strong associations with broad indicators of personality dysfunction, and measures of emotional lability, impulsivity and mentalizing the self (Fonagy et al., 2016; Morandotti et al., 2018). However, the RFQ has negatively correlated with measures of mentalizing others, indicating that the RFQ primarily examines 'mentalizing the self'.

More specifically, the RFQc subscale has positively correlated with borderline features, severity of depression, and measures of mentalizing-related abilities—mindfulness, cognitive empathy. Conversely, correlations between RFQu and mentalizing-related constructs showed an opposite pattern to those observed for RFQc. Further to this, negative correlations have ben found between the RFQc subscale and the constructs of alexithymia (i.e. difficulties identifying and describing feelings, external as opposed to internal thinking), Borderline personality disorder traits and autistic spectrum disorder traits (Fonagy et al., 2016; Morandotti et al., 2018). However, positive correlations were found between the RFQ_U subscale and these same constructs (Fonagy et al., 2016; Morandotti et al., 2018). Similarly, Woźniak-Prus et al. (2022) reported that high levels of uncertainty and low levels of certainty were associated with higher severity borderline personality disorder traits, higher mental health problems (anxiety, depression), emotional distress, emotional regulation difficulties, and higher levels of attachment anxiety and attachment avoidance. Mousavi et al. (2021) also supported the RFQ's validity- it found that the RFQc subscale positively correlated with measures assessing perspective-taking, internalizing and externalizing problems, and difficulties identifying and managing feelings, but not cognitive empathy or mindfulness skills, whereas, the RFQu subscale positively correlated with difficulties with identifying and managing feelings, internalizing and eternalizing problems,

but negatively correlated with measures of perspective taking, cognitive empathy and mindfulness skills (Fonagy et al., 2016; Morandotti et al., 2018).

3.5.5. MZQ

Some studies have attempted to explore the construct validity of the MZQ. Hausberg et al. (2012) reported large significant correlations between MZQ and measures of symptom severity; indicating that higher impairments in personality functioning were associated with mentalization deficits. Other studies have reported correlations with attachment, severity of psychopathological symptoms (including depression), risk behaviours, and RFQ dimensions; indicating some support for the MZQ's validity (Belvederi Murri et al., 2017; Frank et al., 2021; Ponti et al., 2019; Raimondi et al., 2021). Like the RFQ, there is limited evidence regarding its' validity.

3.6. Normative samples

A normative sample is a group of individuals that are representative of the population for whom the measure is intended. Normative data is used to make comparisons between samples/groups of people. As previously noted, the ECR and ECR-R are widely used tools in adult attachment research and normative data can be derived from different samples (community, students etc.). A normative sample is provided for the ECR-R, involving more than 17,000 respondents who completed the ECR-R online. Although, normative data can be used to inform meaningful conclusions regarding the data, majority of sample used for majority of the validity and reliability studies is from student samples, challenging its generalisability to general population. However, since the development of the ECR, has been used with a range of populations, lending support for cross-cultural reliability. With regards to the RFQ and MZQ, studies have provided some normative data, but predominately for clinical samples. It is further noticed that both the RFQ and MZQ are relatively new tools and further research is required with different populations.

3.7. General criticisms and limitations

Limitations for the ECR, ECR-R, ECR-SF, RFQ and MZQ are noted. Most data from the ECR, ECR-R and ECR-SF questionnaires derives from students' samples, with limited data from community, clinical and general populations. Consequently, researchers have argued

between samples/groups of people. For example, majority of validity and reliability evidence for the ECR, ECR-R and ECR-SF is from research using students/ young people in education, limiting its generalisability to the wider general population. It is also noted that young people display adolescent rather than adult attachment because there are in the midst of development, (Simard et al., 2011). Further, it is noted that student samples lack experience in intimate or romantic relationships. These factors must be considered when generalising findings from student samples to the wider general population. However, in comparison to the ECR-R and ECR-SF, the ECR has been used in research with range of populations, lending support for cross-cultural reliability as well as, normative data for specific groups. The RFQ and MZQ appears to been researched using clinical samples, with some limited research conducted with students for the RFQ.

A general criticism for all five measures relates to the use of likert-type scales. Likert-type scales are commonly used in research as a simple way of obtaining responses. However, they are criticized for not conceptualising the distance between each point, resulting in subjective interpretation by respondents. Such measures are also susceptible to socially desirable and defensive responding. It is therefore recommended that an assessment of social desirability is used alongside this measures. A specific limitation for the ECR, ECR-R and ECR-SF that all three questionnaires have an imbalance of positively and negatively keyed items across both scales. With regards to the RFQ, there the two key limitations. The first one being the use of double-scored items as four of its items are simultaneously measured on both subscales. The second limitation refers to the conceptual inconsistencies with regard to the subscales. It is noted that the RFQ subscales does not capture the construct of mentalization properly. For example, the RFQc scale only includes one item that directly measures state of certainty (i.e., item 7). In addition to this, only one item across both subscales examines 'understanding others'. This means the RFQ capture more difficulties relating to the hypomentalization dimension. This is reflected in studies that have found the RFQ exhibits stronger associations with measures of mentalizing the self, as opposed to measures of mentalizing other (Fonagy et al., 2016; Müller, 2022;Morandotti et al., 2018). This limitation is also applicable to the MZQ, as it has been found to only measure mentalization regarding the self, as opposed to 'mentalizing others'. This indicates that both the RFQ and RMQZ primarily measure mentalization related to the self. However, this is

unsurprising considering hypermentalization/ excessive interpretations of one's mental states can sometimes be confused with correct/good mentalization (Fonagy et al., 2016).

3.8.Justifcation for measures

All three measures of adult attachment were found to have a good internal consistency, suggesting they would be consistent and reliable measures of adult attachment dimensions. The ECR had the largest evidence base for cross-cultural reliability and validity (construct and convergent validity. Thus, the ECR appears to have psychometric properties superior to the ECR-R and ECR-SF. The ECR-R has obtained most of its evidence from student populations and ECR-SF had limited research evidence due to being a newer tool. The ECR was therefore deemed the most appropriate measure to use when examining attachment styles of revenge pornography perpetrators and victims. With regards to measuring mentalizing deficits, there was more evidence to support the validity and reliability of the RFQ, in comparison to the MZQ. Despite the RFQ being a newer psychometric tool, it is used more frequently in the mentalization literature/research. This is because the RFQ was developed for the purpose of measuring mentalizing deficits in psychological research. Nevertheless, it is important to emphasise that all measures have limitations and require additional data/studies exist to determine its validity as a measure of adult attachment styles and mentalizing deficits with offending samples, in particular revenge pornography perpetrators and victims.

3.9. Discussion and conclusion

This chapter was divided into two sections. The first section detailed and reviewed the methodology used in this thesis. It highlighted that the methodology used was necessary in order to increase the generalisability of the outcomes of empirical studies presented in chapters four and five. The second section of this chapter examined the psychometric properties of the ECR and its adapted measures (ECR-R and ECR-SF) and the RFQ and an alternative measure of mentalization (the MZQ). This critique highlighted that all measures have been examined primarily with student and community samples. Whilst this suggests that they are reliable psychometric tools for use with student populations, the reliability and validity of such measures with individuals that have perpetrated or experienced revenge pornography is yet to examined. Thus, such measures should be used and interpreted with

caution with forensic/offending samples until research has examined their reliability and validity with these populations. However, it was noted that the ECR and RFQ have been useful in assessing attachment patterns and mentalizing capacities in non-offending populations, making its use for the studies presented in chapters four and five justifiable.

Chapter 4

Attachment styles of revenge pornography perpetrators and victims

Abstract

Attachment theory is a useful framework for understanding sexual and violent offending behaviours. In this chapter, the attachment styles of revenge pornography perpetrators and victims were examined. In line with the literature, it was hypothesised that revenge pornography perpetration would b associated with having a preoccupied attachment style, and also a dismissive-avoidant attachment style. For revenge pornography victimisation, it was hypothesised that this would be associated with having a preoccupied attachment style. It was also hypothesised that demographic differences would occur, specifically with male participants more likely to self-report engaging in revenge pornography behaviours, and female participants more likely to self-report victimisation. In total 841 participants were recruited online. Attachment styles were assessed using the Experiences in Close Relationships questionnaire (Brennan et al., 1998). Some statistically significant gender and attachment differences were found: males were more likely to perpetrate, whereas females were more likely to report being victims. With regards to attachment, having a preoccupied attachment style was significantly associated with revenge pornography perpetration amongst male participants. Overall, 76.2% of perpetrators endorsed a non-secure attachment orientation in comparison to 23.8% that endorsed a secure attachment orientation. Similarly, 78.7% of victims endorsed a non-secure attachment orientation in comparison to 21.3% that endorsed a secure attachment orientation. Implications for clinical practice were discussed in context of directions for future research. Limitations of the study were also acknowledged.

Keywords: Revenge Pornography; Attachment styles; romantic attachment.

4.1. Introduction

Advances in technology have changed the way in which sexual violence and abuse is perpetrated, including a phenomenon conceptualised as revenge pornography (Henry & Powell, 2018). Revenge pornography describes practices involving the non-consensual taking, sharing and threat to share sexual images or videos (McGlynn & Rackley, 2017). One of the intents of these practices is to humiliate or harm victims, who are often the perpetrator's current or previous partner (Eaton et al., 2017). As discussed in chapter one, there are many complexities quantifying the prevalence of revenge pornography practices because a large number of cases goes unreported, possibly due to the blaming culture surrounding this abuse. Nevertheless, it is estimated that 1 in 14 adults will experience a form of this abuse at some point in their lifetime (Ministry of Justice, 2022). High prevalence rates are particularly high amongst adolescents and young people (Patel & Roesch, 2020). Beyond the prevalence rates, victims of this abuse have reported experiencing negative consequences including anxiety, shame, fear, depression, and self-esteem issues (Bates, 2017; Murça et al., 2023). These consequences are reported more frequently for victims that have had their private content shared publicly amongst large group of people (Bates, 2017). Such victims are also at greater risk of experiencing other forms abuse (see chapter two).

Despite the increasing number of revenge pornography practices and the negative consequences associated with this, research on individuals that have experienced or perpetrated this abuse is in its infancy (Murça et al., 2023; Walker & Sleath, 2017). This is in contrast to other areas of sexual violence and abuse that have been extensively researched (Borrajo et al., 2015; Caridade et al., 2019; Caridade & Braga, 2020). Considering the increase in revenge pornography offences in the community, an understanding of this social problem is warranted. Some empirical research has begun examining the perpetration and victimisation of revenge pornography has identified some key themes. These are discussed below.

4.1.1 Factors associated with revenge pornography perpetration and victimisation

A number of factors that have been found to be associated with revenge pornography perpetration, with some recurring themes: males and ex-partners tend to be the main

perpetrators (Powell et al., 2019). Women and older adults also perpetrate but at a lesser rate (Eaton et al., 2017; Powell et al. 2019; Powell et al., 2022). As for victims, disproportionate amounts are females (Murça et al., 2023). However, recent research has emerged providing inconsistent findings regarding this. As discussed in chapter two, these conflicting findings may stem from an overrepresentation of female participants in studies and some of the research focusing solely on the experiences of female victims. Another factor that has been associated with revenge pornography is age (Eaton et al., 2017). Adolescents generally experience victimisation and perpetration in greater amounts, highlighting the vulnerabilities surrounding this age group as a whole, which include lack of insight, impulsivity, frequency social media use, group membership, risky online and offline behaviours, and peer influence (Boer et al., 2021; Harder et al, 2019; Maas et al., 2021; Morelli et al., 2016). Sexting- the consensual practice of the sharing explicit text messages, images, and videos with another person- is also highly prevalent amongst individuals that perpetrate this abuse (Barrense-Dias et al., 2020; Boer et al., 2021; Harder et al., 2019; Powell et al., 2019; Powell et al., 2022). An explanation for this is that content that is consensually produced and shared, might be non-consensually distributed in order to seek revenge, social exposure or for enjoyment purposes (Boer et al., 2021). Furthermore, high rates of anxiety and depression are observed in both victims and perpetrators, whilst higher levels of aggression hostility, and sadism have only been observed in perpetrators of revenge pornography (Barroso et al., 2021).

Some personality traits, namely the dark triad personality traits have also been linked to revenge pornography practices (Pina et al., 2017). Machiavellianism, narcissism, and psychopathy have been found to predict perpetration or proclivity to perpetrate (Clancy et al., 2019; Karasavva & Forth, 2021; Pina et al., 2017; Thomason-Darch, 2021; Trendell, 2019). Although these traits are distinct from one another, they are described as a unitary construct and have been linked to other antisocial online behaviours (Moor & Anderson, 2019; Paulin & Boon, 2021) and problematic interpersonal relationships (Carton & Egan, 2017).

More significantly, the endorsement of dark triad personality traits has been linked to abusive behaviours and ‘romantic revenge’ (Brewer et al., 2015; Karasavva & Forth, 2021;

Veselka et al., 2014), as well as risky and sensation-seeking behaviours (Crysel et al., 2013). Rasmussen and Boon (2013) found that individuals that endorsed these traits felt impelled to seek revenge after being wrong by a romantic partner. An explanation for these findings is that individuals who endorse high levels of the dark triad personality traits can feel particularly offended by any wrongdoings and therefore seek revenge against others (Brewer et al., 2015; Rasmussen & Boon, 2013). Research also indicates that such individuals experience stronger reactions to perceived rejection and relationship threats, and may underestimate partner's commitment. Adult responses to feeling threatened, whether actual or perceived can be understood within the context of attachment styles and/or attachment theory (Mikulincer et al., 2006).

4.1.2 Attachment

Attachment theory (Bowlby, 1969) is considered to be one of the leading theoretical frameworks for understanding sexual and violent offending behaviours. It helps understand why some individuals are more vulnerable to engage in offending behaviours than others (Fonagy et al., 2016). According to attachment theory, early attachment experiences are thought to contribute to the development of internal working models (IWMs)- beliefs and expectations about oneself, others, relationships, and the world (Ainsworth & Bowlby, 1991; Shaver et al., 2014). These expectations are integrated into general feelings of self (i.e., self-esteem) and provide a template for how individuals experience, express, and manage distressing emotions (Maloney et al., 2022). Individuals with positive early attachment experiences develop positive working models; enabling them to form relationships and manage emotional information in an effective way (Fonagy, 2016). In contrast, experiences of poor, abusive and inconsistent care leads to attachment difficulties (Bateman & Fonagy, 2016). These difficulties may vary but tend to include chronically high levels of anxiety/arousal that is difficult to manage; an inability to mentalize; extreme sensitivity to experiences of shame and perceived humiliation; poor self-awareness; lack of a sense of identity and purpose in life (Fonagy & Bateman, 2016). These attachment difficulties are reflected in insecure attachment patterns associated with the psychological and biological systems that regulate threat appraisal, stress response and recovery (Bowlby, 1969).

Bartholomew and Horowitz (1991) proposed four attachment patterns based on the positive and negative model of self and others. The four attachment patterns are categorised as secure or insecure (preoccupied, fearful, dismissive avoidant). A secure attachment pattern derives from positive images of self and others and is associated high self-esteem, and feelings of trust and safety in relationships (McKillop et al., 2012). A preoccupied attachment reflects a negative working model of self and positive model of others and is associated with 'all-or-nothing', proximity seeking approaches to relationship including obsessive preoccupations that lead to rumination (Fonagy & Bateman, 2016). This can incite lack of trust in attachment figures' availability, and a fear of abandonment (Fonagy et al., 2002). Individuals with a preoccupied attachment style, in particular, are more vulnerable to experiencing threatened self-worth when faced with relational threats because they rely on others to maintain a positive sense of self. A dismissive avoidant style stems from a positive model of self and negative model of others, and is characterised by extreme self-reliance and independence (Lorenzini & Fonagy, 2013). Finally, a fearful attachment style is marked by both negative images of self and others, in which a person shifts between proximity seeking and avoidance of intimacy due to fear of rejection and abandonment (Bartholomew & Shaver, 1998)

4.1.3 Attachment and offending

Research has found that perpetrators of violent and sexual crimes are more likely to be dismissive avoidant, fearful, and preoccupied in their attachment style than non-offending samples and victims (see Dutton et al., 1994). A theoretical explanation for this is that attachment styles influences how individuals manage conflict and respond to those around them (Sklyarov, 2020). For example, individuals with insecure attachments style are known to experience intensified negative emotions to interpersonal conflict and transgressions (i.e., rejection, criticism, infidelity, deception or being treating unfairly) in comparison to securely attached individuals (Van Monsjou et al., 2015). As they rely on others/attachment figures to maintain a positive sense of self, relational conflict threatens their self-worth. Instead of approaching relational conflict constructively, such individuals adopt secondary attachment strategies (direct security seeking is viewed as primary attachment strategies) to alleviate uncomfortable emotions. Secondary attachment strategies include intensified negative emotions/ negative emotional responses; hypervigilance; perceived threats of

rejection and abandonment; hostility; aggression; and coercive and threatening behaviours (Kim, 2022; Park, 2016; Van Monsjou et al., 2015). Although, anyone can adopt secondary attachment strategies, individuals with a preoccupied attachment style, in particular, have been found to experience a hyper-activation of attachment strategies (Park, 2016). Individuals with a dismissive-avoidant attachment style, on the other hand, experience deactivation of the attachment system. This results in emotion being suppressed and an over-reliance on the self to solve/navigate social problems. Individuals with a fearful attachment style use a combination of hyperactivating and deactivating strategies to alleviate emotional discomfort. Such individuals are also thought to adopt strategies that reduce proximity to others (Kobayashi, 2021; Lorenzini & Fonagy, 2013).

From an attachment perspective, offending behaviours stem from a hyper-activation or deactivation of such attachment strategies. For those with a preoccupied attachment style (i.e. an anxious attachment style), offending behaviours are viewed, as an exaggerated attempt to fulfil one's attachment need when experiencing relational threat (Allison et al., 2008; Gilbert & Blakey, 2021; Kim, 2022; Kural & Kovacs, 2022; Powell et al., 2022). This is particularly reflected in cases of non-contact offending behaviours such as stalking (see Heckels & Roberts, 2010) and intimate partner violence (Condino et al., 2022) where anxiously attached individuals have a greater risk of perpetrating violence against an intimate partner (see Condino et al., 2022; Dutton, 2012; Smallbone & Dadds, 1998). Specifically, Condino et al. (2022) found that individuals with anxious attachment style perpetrated IPV to increase proximity to attachment figures. This is supported by the earlier studies by Fonagy et al. (1997) who also found that violent and abusive behaviours were used to seek proximity to attachments figure and to manage negative emotions (attached to this). This has led some researchers to suggest that difficulties in emotion regulation/ poor affect regulatory processes might underpin the relationship between offending behaviours and attachment styles, consistent with the hypothesis that offending behaviours have a self-regulatory emotion (Blagden et al., 2017; Maloney et al., 2022)

With regard to victimisation, there is evidence to suggest that individuals remain in violent and abusive relationships due to intense feelings of rejection and fear of abandonment, reflecting a preoccupied or fearful attachment style (Kuijpers et al., 2012; Kural & Kovacs,

2022). Research on female victims of intimate partner violence, in particular, has found that fear of abandonment and rejection constitutes as risk factor for victimisation (Ogilvie et al., 2014; Ponti & Tani, 2019). In addition, Sandberg et al. (2016) found that a preoccupied attachment style, but not a dismissive avoidant attachment pattern was associated with an increased risk of physical assault victimisation. It was suggested that victims that develop preoccupied attachment patterns were at greater risk of forming and remaining in violent and abusive relationships to meet their attachment needs. Individuals with a preoccupied attachment patterns also appear to tolerate more abuse from partners than individuals with fearful or dismissive attachment styles (Cappell & Heiner, 1990; Henderson et al., 2005). Some suggestions have arisen that preoccupied attached individuals may perceive abuse as evidence that a partner or a significant other is intimately involved (Henderson et al., 2005). Unsurprisingly, having a preoccupied attachment style has been a consistent predictor for both victimisation and perpetration of different forms of violence (Bond & Bond, 2004; Henderson et al., 2005). The exposure to violence has also been found to contribute to the development of preoccupied and fearful attachment styles, though this relationship is not properly understood (Kural & Kovacs, 2022).

4.1.4 Aims

Although attachment styles have been examined in relation to sexual offending behaviours, no empirical research has attempted to explore this with revenge pornography perpetrators or victims. To address some of this gap in the literature, this study explored the attachment styles of revenge porn victims and perpetrators. It also explored gender differences with regards to revenge pornography perpetration and victimization. Based on the available literature (discussed above), it was hypothesised that revenge pornography perpetration would be associated with having a preoccupied attachment style. It was also hypothesised that that revenge pornography perpetration would be associated with having a dismissive-avoidant attachment style. With regards to revenge pornography victimisation, it was hypothesised that this would be associated with having a preoccupied attachment style. Furthermore, it was hypothesised that demographic differences would occur, specifically with male participants more likely to self-report engaging in revenge pornography behaviours, and female participants more likely to self-report victimisation.

4.2. Methodology

Core methodology has been documented in chapter 3 of this study. For this study participants completed the Experiences of Close Relationship questionnaire. Social desirability was examined using the Balanced Inventory of Desirable Responding (BIDR, Paulhus, 1988). This scale was used to explore to what extent participants provide socially desirable responses (either over-reporting positive or under reporting negative behaviour). The BIDR scale consists of 40 items used to measure dimensions of self-deception and impression management.

4.3. Results

Data was analysed using the Statistical Packages for Social Sciences (SPSS version 26) software. A data screen was conducted to check for any errors in the data; participants that did not specify demographic variables (i.e., gender, relationship status, sexual orientation) were excluded from analyses (*n=2*). No participants attained high scores (reflecting social desirability or exaggerated responding), so no other data/responses were excluded from the analyses. Age was concatenated into categorical data; 18-24, and 25 and over to increase cell counts. Young adulthood (age 18-24 years) was selected as a period of particular interest as it is characterised by increased participation in revenge pornography behaviours.

Preliminary analyses were performed to determine the normal distribution of data and ensure that the assumptions for parametric statistical tests were met. A visual inspection of normality plots and corresponding tables indicated that the data was normally distributed. A significance of $p < .05$ was used to determine if the analyses and any interactions between the variables were statistically significant.

4.3.1. Data analysis

Firstly, frequencies and descriptive analysis was conducted on demographic variables, revenge pornography behaviours and attachment variables. Secondly, bivariate analyses examined the relationship between different revenge pornography perpetration and victimisation and demographic variables. Chi-square analysis was then used to examine categorical data including gender (female or male), sexual orientation (heterosexual or non-heterosexual), relationship status (single or in a committed relationship at some point).

Further analyses were undertaken using the Analysis of Variance (ANOVA) to examine the relationship between revenge pornography behaviours and the anxiety and avoidance attachment dimensions.

4.3.2. Descriptive analysis

Tables 4.1 and 4.2 details the frequencies of revenge pornography behaviours and demographic variables of participants. A higher proportion of participants identified as male (62.9%) in comparison to females (37.1%). As a result, descriptive data is also provided for male and female participants in table 6. 62.9% of the sample was aged between 18 and 24 years old, with a mean age of 23.62 years and a standard deviation of 4.11. Overall, 93.2% of the sample identified being single, in comparison to 6.8% that identified as having been in a committed relationship at some point. Comparatively, 82.6% of participants identified as being heterosexual with 17.4% identifying as non-heterosexual, endorsing responses of 'bisexual', 'lesbian', or 'other'. With regards to revenge pornography variables, 50.1% identified as having perpetrated revenge pornography behaviours at some time in their lifetime, in comparison to 49.1% that self-reported experiencing victimisation. For the attachment variables, majority of the sample (77.4%) endorsed a non-secure attachment orientation. 76.2% of perpetrators endorsed a non-secure orientation in comparison to 23.8% that endorsed a secure orientation. Similarly, 78.7% of victims endorsed a non-secure orientation in comparison to 21.3% that endorsed a secure orientation.

Within the male sample, 60.1% were aged between 18-24 and 37.1% were aged 25 and above. The mean age for male participants was 23.75 years with a standard deviation of 3.97. Majority of male participants reported being single (92.8%) in comparison to those that reported having been in a committed relationship at some point (7.2%). 81.7% of male participants identified as being heterosexual in comparison to non-heterosexual, endorsing responses of 'homosexual', 'bisexual', 'asexual' or 'other' (18.3%). With regards to the revenge pornography variables, 67.9% responded that they had engaged in revenge pornography behaviours at least once in their lifetime, while 32.1% reported experiencing the abuse. For attachment characteristics, 77.5% endorsed a non-secure orientation in comparison to 22.5% that endorsed a secure orientation. Amongst male participants, 28%

endorsed a preoccupied attachment style, 23.6% endorsed a dismissive avoidant attachment style and finally 25.9% endorsed fearful attachment style.

Within the female sample, 67.8% were aged between 18-24 and 32.2% were aged 25 years and above. The mean age for females was 22.3 years with a standard deviation of 4.33. Many females within the sample reported being single (93.9%) in comparison to those that reported having been in a committed relationship at some point (6.1%). 84.3% of female participants identified as being heterosexual in comparison to non-heterosexual, endorsing responses of 'homosexual', 'bisexual', 'asexual' or 'other' (15.7%). With regards to revenge pornography variables, 77.9% reported being victims of revenge pornography in comparison to 22.1% that perpetrated such behaviours. For attachment characteristics, 77.2% endorsed a non-secure orientation in comparison to 22.8% that endorsed a secure orientation. Further, 24% endorsed a preoccupied attachment style, 27.2% endorsed a dismissive-avoidant attachment orientation and 26% endorsed a fearful attachment style.

Table 4.1:

Frequencies of revenge pornography behaviours and demographic variables (n=841)

Variable	***n* (%)**
Perpetrated revenge pornography	428 (50.9%)
Experienced revenge pornography	413 (49.1%)
Age	
18-24 (young/emerging adults)	529 (62.9%)
>25 (Adults)	312 (37.1%)
Gender	
Female	312 (37.1%)
Male	529 (62.9%)
Relationship status	
Single	784 (93.2%)
In a committed relationship (at some point)	57 (6.8%)
Sexual orientation	
Heterosexual	695 (82.6%)
Non-heterosexual (other)	146 (17.4%)
Attachment styles	
Secure	190 (22.6%)
Preoccupied	223 (26.5%)
Dismissive avoidant	210 (25%)
Fearful	218 (25.9%)

Table 4.2:

Frequencies of age and attachment variables (n=841)

Variable	*M* (range)	SD
Age	23.62 (18-43)	4.11
Attachment		
Attachment anxiety	4.45 (2.53-6.11)	.69
Attachment avoidance	3.61 (2.38-4.83)	.45

Table 4.3:

Frequencies of revenge pornography behaviours and demographic variables for female and male participants.

	Male *(n=529)*	**Female *(n=312)***
Variable	***n* (%)**	***n* (%)**
Perpetrated revenge pornography	359 (67.9%)	69 (22.1%)
Experienced revenge pornography	170 (32.1%)	243 (77.9%)
Age		
18-24 (young/emerging adults)	318 (60.1%)	211 (67.8%)
>25 (Adults)	211 (39.9%)	101 (32.3%)
Relationship status		
Single	491 (92.8%)	293 (93.9%|)
In a committed relationship (at some point)	38 (7.2%)	19 (6.1%)
Sexual orientation		
Heterosexual	432 (81.7%)	263 (84.3%)
Non-heterosexual (other)	97 (18.3%)	49 (15.7%)
Attachment styles		
Secure	119 (22.5%)	71 (22.8%)
Preoccupied	148 (28%)	75 (24%)
Dismissive avoidant	125 (23.6%)	85 (27.2%)
Fearful	137 (25.9%)	81 (26%)

4.3.3. Bivariate analyses

Demographic variables and revenge pornography behaviours

Chi-square tests of independence were run to explore the differences effects of victimisation and perpetration across the variables measured. The variables included in analysis were gender, age, relationship status, sexual orientation, revenge pornography behaviours and attachment styles. A Bonferroni correction was used due to the number of tests used in analysis, significance levels for p values were adjusted accordingly. Age was found to have a significant association with revenge pornography behaviours, with younger adults more likely perpetrate or experience revenge pornography in comparison to older adults, X2 (1, N = 841) = 11.50, p<.001.

Gender was also found to have a significant association with revenge pornography victimisation and perpetration with females more likely to be victims of revenge pornography, and males more likely to be perpetrators X2 (1, N = 841) = 164.35, p<.001. These results were consistent with the first hypothesis that there would be differences.

Sexual orientation, and relationship status were not significantly associated with perpetration or victimisation. See table 7 for significant and non-significant results.

Gender, other demographic variables, and revenge pornography behaviours

Due to the gender differences identified in relation to revenge pornography (victimisation vs. perpetration), additional chi square tests of independence were run to explore the demographic effects within the female and male sample.

No significant association was found between relationship orientation (heterosexual vs. non-heterosexual) and revenge pornography behaviours (perpetration vs. victimisation) for males X^2 (1, N = 529) = 4.51, p=.034 or females X^2 (1, N = 312) = .658, p=.417.

No significant association was found between relationship status (single vs. in a committed relationship) and revenge pornography behaviours (perpetration vs. victimisation) for males X^2 (1, N= 529) = 2.98, p=.084 or females X^2 (1, N = 312) = .207, p=.649.

Table 4.4

Chi-square analysis for perpetrating or experiencing revenge pornography and demographic variables (n=841)

Variable	Perpetrators		Victims			
	N	**%**	**N**	**%**	**X^2**	**DF**
Age					**11.50*** **	1
18-24	318	60.1	211	67.8		
<25	211	39.9	101	32.2		
Gender					**164.35*** **	1
Female	69	22.1	243	77.9		
Male	359	67.9	170	32.1		
Relationship status					.681	1
Single	491	92.8	293	93.9		
Committed relationship	38	7.2	19	6.1		
Sexual orientation					.762	1
Heterosexual	432	81.7	263	84.3		
Other	97	18.3	49	15.7		

*** = $p<.001$

X^2 = chi-square value; DF = degrees of freedom

Attachment variables

Due to the gender differences identified in relation to revenge pornography (victimisation vs. perpetration), males and females were analysed separately for the analyses involving the attachment variables. Chi Square tests of independence found no significant association between having a secure attachment style and revenge pornography behaviours (perpetration vs. victimisation) for males X^2 (1, N = 529) = 1.937, *p*=.164 or females X^2 (1, N = 312) = .052, *p*=.819.

Similarly, no significant association was found between having a dismissive avoidant attachment style and revenge pornography behaviours (perpetration vs. victimisation) for males X^2 (1, N = 529) = .066, *p*=.798, or females X^2 (1, N=312) = 2.540, *p*=.111.

No significant association was found between having a fearful attachment style and perpetrating/experiencing pornography behaviours practices for males X^2 (1, N =529)= .185, *p*=.667, or females X^2 (1, N=312) =.354, *p*=.552.

However, having a preoccupied attachment orientation (low avoidance/high attachment anxiety) was significantly associated with perpetration for males, X^2 (1, N = 529)=3.832, *p*<.005, but not for not the female sample X^2 (1, N = 312)= .682, *p*=.409.

Attachment anxiety and attachment avoidance

Further analyses were undertaken using a one-way ANOVA to explore potential differences between revenge behaviours (victimisation vs perpetration) and the two dimensions of attachment: anxiety and avoidance. Results of the one-way ANOVA showed no significant interaction between revenge porn behaviours (perpetration, victimisation) and attachment anxiety, F (1, 841) =1.44, *p*=.230. No significant relationship was found between revenge pornography behaviours (perpetration, victimisation) and attachment avoidance, F (1, 841) =3.53, *p*=.553.

4.4. Discussion

Research exploring factors associated with revenge pornography perpetration and victimisation is limited, even more so with regards to adult attachment styles. Previous research has found an association between violent and sexual offending and attachment styles. To date, no research has attempted to explore this relationship in relation to revenge pornography victims or perpetrations. To the author's knowledge, this study was the first of research to examine this in relation to revenge pornography perpetration and victimisation. In addition, this study sought to clarify gender differences in revenge pornography perpetration and victimisation, which has recently provided mixed findings (Clancy et al.,2019; Karasavva & Forth, 2021; Trendell, 2019; Walker et al., 2019).

The results overall showed that revenge pornography behaviour is a common occurrence, with 50.9% of participants self-reporting having perpetrated at least one form of revenge pornography behaviours at some point in their lifetime, and 49.1%of participants self-reporting being victimised or threated. This finding is greater than what has been reported in previous research (e.g., 23% for perpetration: Garcia et al., 2016; 24.2% for victimisation: Snaychuk & O'Neill, 2020). The high percentage of victims and perpetrators might reflect the study's methodology. Only victims and perpetrators were recruited. This could also reflect the broad definition of revenge pornography used in this study, meaning that individuals that engaged in any of the behaviours captured within the definition were able to participate.

4.4.1. Gender

The hypothesis that male participants would self-report high levels of perpetration and in contrast female participants would be more likely to self-report victimisation, was supported. This finding is consistent with research demonstrating that revenge pornography perpetration is prevalent in boys and young males (Barroso et al., 2021), as well as, the current gender debate surrounding revenge pornography behaviours (Mass et al., 2019). Some reasons for the higher perpetration exhibited by males include gender differences in motivations (to perpetrate), beliefs, attitudes, and psychological characteristics (Eaton et al, 2017; Mass et al., 2019). Other explanations are provided in chapter two of this thesis. The results nevertheless, showed that revenge pornography perpetration was a common

occurrence among males, with 67.9% of male participants self-reporting having engaged in revenge pornography behaviours at some point in the lifetime, while 22.1% of female participants self-reported reported perpetrating this abuse. Although this is also greater than what has been found in previous research (i.e., Powell et al., 2019; Powell et al., 2022), this difference may be due to study being conducted online and attracting participants that had an interest in the topic or were actively searching for the topic. Thus, it could have contributed to an overrepresentation of perpetrators and males. It is also worth noting there has been a reported increase in revenge pornography cases during the COVID-19 pandemic, which occurred when this study took place.

4.4.2. Attachment

The hypothesis that having a preoccupied attachment style would be associated with revenge pornography perpetration was partially supported. Specifically, significant findings were found for male perpetrators. This finding was theoretically expected and consistent with the research on intimate partner violence and sexual offending (e.g. Drouin & Landgraff, 2012). An explanation for this association is that individuals with a preoccupied attachment style use maladaptive coping strategies to maintain proximity to attachment figure(s)/ prevent relationship breakdown and to alleviate uncomfortable feelings (Bonache et al., 2019; Black et al., 2010). With this in mind, disseminating explicit content of others without their consent might provide an opportunity (for individuals with a preoccupied attachment style) to alleviate negative emotional states (associated with relationship) and create proximity to the victim/attachment figure (Barroso et al., 2021; Drouin & Landgraff, 2012; McDaniel & Drouin, 2015). These attempts at maintaining relationships and/ proximity to attachment figures is evidenced in other forms of non-contact offences such as stalking and harassment and might be applicable to revenge pornography perpetration (Kural & Kovacs, 2022; Powell et al., 2022). There is also evidence to suggest that men have higher levels of attachment anxiety (reflecting a preoccupied attachment pattern) in comparison to women (with the same attachment pattern) and are therefore are more vulnerable to engage in aggression, interpersonal conflict to alleviate negative emotional states (Bookwala & Zdaniuk, 1998; Doumas et al., 2008; Mauricio & Gormley, 2001). From a methodological standpoint, it is important to acknowledge that a large sample size of male participants contributed to this gender difference- 28% males in comparison to 24%

endorsed a preoccupied attachment orientation and that significantly more male (67.9%) in comparison to males (22.1%) self-reported perpetrating this abuse. Nevertheless, the finding highlights the importance of assessing both female and male perpetration given that significant association was found within the male sample.

The hypothesis that having a dismissive-avoidant attachment style would be associated with revenge pornography perpetration was not supported. It might be the case that individuals with a dismissive avoidant attachment style are less to employ techniques or in this case offending behaviours that maintain proximity to others (Allison et al., 2008). The contrasting findings in relation to revenge pornography perpetration and attachment styles, suggest that it would be important to explore this further to gain a better understanding of the mechanisms underpinning any potential associations. As research into revenge pornography perpetration is limited, there are also limited theoretical explanations for the significant, as well as, lack of findings in relation to revenge pornography perpetration.

The hypothesis that revenge pornography victimisation would be associated with a preoccupied attachment style was not supported. This is contrary to empirical evidence suggesting that victims of violence (in close relationships) endorse a preoccupied attachment pattern in comparison to other attachment styles (Gottlieb & Schmitt, 2023; Şenormancı et al., 2014). It has also been suggested that victims of interpersonal violence demonstrate higher levels of anxiety and fear or rejection, reflecting a preoccupied attachment pattern (Doumas et al., 2008). Alternatively, exposure to violence is thought to contribute to the development of attachment anxiety in victims. The findings, nevertheless, reflect the often-conflicting findings reported for other variables in relation to revenge pornography victimisation and perpetration, and the need to further explore psychological mechanisms underlying revenge pornography behaviours (Henry et al., 2020).

4.4.3. Implications

At present there is no evidence-based treatment for individuals that perpetrate revenge pornography. This is due to the lack of both theory and research that can inform treatment pathways for perpetrators and victims of revenge pornography. Despite the lack of findings of this study, the significant association between male revenge pornography perpetration

and having a preoccupied attachment style could have implications for treatment. For example, it might be useful for clinicians to consider disruptive early attachment experiences (that result in the development of a preoccupied attachment style) when assessing and formulating the function of an individual's offending behaviour (i.e., revenge pornography perpetration). As early attachment experiences are considered in other theories of sexual offending and the treatment of individuals convicted of sexual offences, this empirical/ theoretical support could be extended to perpetrators of revenge pornography (Blagden et al., 2017).

Understanding the context in which individuals experience intense affective arousal (i.e. following conflict with attachment figure/ transgressions), as well as, coping strategies employed to alleviate this might also be an area to focus in treatment. However, it is noteworthy these are only suggestion and that additional research is required is warranted. Therefore, it is suggested that attachment styles and other psychological mechanisms (such emotion regulation) should be the focus of future research, in order to inform both theory development and practice.

Such factors might be examined using mixed methods approach incorporating interviews to provide important contextual data (i.e. function of revenge pornography perpetration for individuals with a preoccupied attachment style), which is currently lacking in the current self-reported, cross-sectional methodology. Future research may also focus on exploring the casual direction between attachment and revenge perpetration, as well as mechanisms that perpetrate this relationship. The same could be suggested for attachment and revenge pornography victimisation. Secondly, as this study was the first to explore focused on attachment styles of revenge pornography victims and perpetrators, it would be useful to explore these variables further. This is because revenge pornography behaviours have become normalised over the recent years and there is an increased need for studies to have better understanding of individuals perpetrating or experiencing such behaviours. With better understanding of such individuals, risk assessments and interventions can be advised.

4.4.4. Strengths and Limitations

There were some strengths and limitations to this study that needs to be acknowledged. One strength of the study includes the large sample size (*n*=841). This sample size was sufficiently large to produce meaningful results, although not all findings were statistically significant. However, the study adopted an opportunistic sampling, making it difficult to determine response rate. The current study also relied on potential participants willingness participate, so it is possible that the sample used was not representative of all those that have perpetrated or experience this abuse. Thus, this sample may be biased towards individuals in the 'less serious' end of the spectrum.

Data was also obtained using self-reported measures. Individuals may have felt reluctant to identify themselves as having perpetrated behaviours that have recently been criminalised. However, this confounding variable was accounted for by the inclusion of a social desirability scale. This was a noted limitation with majority of studies included in chapter two. To note, no responses were excluded, as there were no scores high enough to indicate social desirability. Equally, the data relied on individuals knowing that an image or recording may have been taken or shared without their consent. It is therefore possible that this resulted in biased or distorted reporting. However, it was hoped participants would be willing to answer truthfully.

Furthermore, a limited amount of questions were asked in relation to revenge pornography behaviours. It became apparent upon analysis of the research, that findings may have been more meaningful if additional demographic information had been collected (beyond the demographic variables considered). This could have provided more scope to explore other factors in relation to perpetration and victimisation, as well as improve the quality of this study. There were also insufficient participants with a non-heterosexual orientation. Consequently, it was not possible to conduct comparable analyses for this group, despite it being a common finding in much of the quantitative research exploring revenge pornography practices (Powell et al., 2018; Henry et al., 2020). Future research may benefit from gathering more demographic information to conduct a thorough depth analysis of a wide range of potentially important factors.

Finally, the author was unable to compare the scores to normative data for those with revenge pornography convictions or sharing similar characteristics to the sample recruited for the study, as ECR authors have suggested 'mismatched comparisons' might misinterpret the data. It is also problematic to compare attachment styles of student and community samples to the attachment styles of offending populations. Whilst it would have been helpful to draw comparisons between attachment styles of perpetrators and victims to other offending samples, the highlights the need for the ECR to be validated with offending samples to provide appropriate normative norms.

4.4.5. Conclusions

This study found evidence for gender differences in revenge pornography behaviours, lending support to the gendered debate surrounding this phenomenon. The study also found some evidence to suggest that male revenge pornography perpetration is associated with having a preoccupied attachment style. This particularly pertinent considering that attachment anxiety has been linked to non-contact and online offending behaviours. Violence and sexual aggression in particular appear to be a strategy for individuals with a preoccupied attachment style, though the psychological mechanisms underpinning this association are yet to be explored. Future research is nevertheless required to lend further support to the findings of this study, and with the focus on developing intervention for victims and perpetrators of revenge pornography.

Chapter 5: Mentalizing capacities of revenge pornography perpetrators and victims

Abstract

Impaired mentalizing capacity has been linked to offending behaviours, in particular those that have engage in interpersonal aggression. However, there is no published literature exploring whether such findings are applicable to revenge pornography perpetrators and victims. Using the same sample as chapter four, this study explored the mentalizing capacities of revenge pornography perpetrators and victims. In line with the limited knowledge of mentalizing capacities in offending samples, it was hypothesised that perpetrators would demonstrate more deficits relating to hypomentalization, and victims would demonstrate more deficits relating to hypermentalizatio. A total of 841 participants completed the Reflective Functioning Questionnaire (Fonagy et al., 2016). The findings demonstrated that, in contrast to the literature, victims demonstrated more deficits in the hypomentalization dimension, in comparison to perpetrators. Victims also demonstrated greater mentalizing difficulties arising from the hypermentalization dimension, which was in line with the general literature on mentalization and victimisation. Some methodological limitations regarding the psychometric tool used to examine mentalizing deficits. Implication for practice included the use of mentalization-based practices to target mentalizing deficits in therapy.

Keywords: Revenge pornography perpetration; victimisation; Mentalizing capacities

5.1. Introduction

As discussed in previous chapters, there is a growing concern about the use of technology to sexually exploit, harass and abuse individuals. An area of sexual violence and online abuse that has received increasing attention in the literature and media is the phenomenon referred to as 'revenge pornography' (Henry & Powell, 2018). This is the term given to situations where images or videos are produced of individuals and subsequently shared without their consent (Walker & Sleath, 2017). Revenge pornography is also used interchangeably with terms such as 'image-based sexual abuse', 'technology-facilitated abuse' and 'abusive sexting', though there are noted challenges and issues doing this (see chapter one- Walker & Sleath, 2017). Revenge pornography typically results from a relationship breakdown and a form of abuse (Powell et al., 2019). The distribution of sexualised content online may also result from hacking of personal devices or altering pornographic content. These practices enable additional avenues for intimate partner violence and abuse especially in relation to coercion and control (Zhong et al., 2020).

Revenge pornography behaviours have increased in recent years, as evidenced by the number of self-reported cases of victimisation and perpetration (Henry et al., 2020). The research has attributed this to advances in technology and increased online participation and sexting practices. The number of individuals being convicted for this abuse has also risen due the increased familiarity of police and prosecutors in relation to 'new offences' (Eaton et al., 2023). Revenge pornography practices have also become prominent in public awareness, through media coverage of revenge pornography cases related to celebrities (Lenhart et al., 2016). As a result, laws and legislations have been introduced against revenge pornography practices across Europe and all 50 states in the USA (Patel & Roesch, 2022). Within the UK, revenge pornography is a criminal offence under section 33 of the Criminal Justice and Courts Act 2015, carrying a prison sentence of up to two years (Crown Prosecution Service, 2015). If the victim is under the age of 18 years old, possessing, taking, or distributing sexual content of the individual is an offence under section 1 of the Protection of Children Act 1978 and section 160 of the Criminal Justice Act 1988 (Crown Prosecution Service, 2018).

Despite the recent criminalisation of revenge pornography practices, there is a lack of research into perpetrators and victims of revenge pornography. Reasons for this is summarised in Walker and Sleath's (2017) systematic review. Although, it is acknowledged that research has explored different facets of this phenomenon, including the gendered nature, public perceptions, and legal implications of revenge pornography behaviours, there remains a gap in the literature with regards to the psychological factors associated with revenge perpetration and victimisation. This is needed for a better understanding of individuals that experience or perpetuate this abuse.

Research into the characteristics of revenge pornography perpetrators, has found some key patterns; that is, majority of people perpetrating this abuse are boys and young men (Barroso et al., 2021). In contrast, girls and young men are disproportionately affected, both in terms of the victimisation rates and the amount of social stigma attached to victimisation (Bothamley & Tully, 2017). Individuals perpetrating this abuse have also been found to have a complex set of motivations, characteristics, and background/childhood experiences (Karasavva & Noorbhai, 2021). For example, childhood experiences of physical or sexual abuse or neglect, has been found in adolescents that share private non-consensual content (Barroso et al., 2021). Other factors that co-exist with other forms of sexual violence and abuse including empathy deficits, aggression and difficulties in social functioning are also prevalent in revenge pornography perpetrators and victims (Barroso et al., 2021; Clancy et al., 2019; Karasavva & Forth, 2021; Trendell, 2019). This is perhaps unsurprisingly considering the extensive empirical evidence for the impact of childhood trauma on adult competencies, including self-regulation and mentalization (Fonagy, 2016).

5.1.1. Mentalization

The ability to understand and interpret one's own and others' behaviours is known as mentalization (Fonagy, 2006). Mentalization enables individuals to perceive and interpret human behaviour in terms of mental states (Fonagy & Bateman, 2004). It includes cognitive processes such as Theory of Mind (ToM), empathy and reflective functioning (RF). ToM and empathy is involved in mentalizing about others, whereas RF is involved in the mentalization about oneself (Fonagy, 2006). Mentalization occurs both implicitly and explicitly. Implicit mentalization refers to the automatic processes that occur outside one's conscious

awareness, whereas explicit mentalization involves conscious processes relating to mental states (Arnott & Meins, 2007). Indeed, mentalization involves recognising the mental states of self and others. Mentalization may also include a focus on both cognitive and affective states (Fonagy, 2006).

Failure to mentalize is evident through three patterns of errors, also referred to as 'pre-mentalizing modes': hypomentalization, hypermentalization and teleological thinking (Bateman & Fonagy, 2002). These modes emerge in childhood before individuals are able to fully develop mentalizing capacities and may persist into adulthood, representing deficits in mentalization (Freeman, 2016). Hypomentalization, used interchangeably with psychic equivalence mode, refers to diminished or concrete thinking about thoughts and feelings (Bateman et al., 2004; Fonagy et al., 2016). When one relies on this mode, they are unable to consider alternative perspectives in interpersonal contexts and experience uncertainty about mental states. Individuals may use hypomentalization (concrete thinking) as a way of regulating negative affect/ reducing emotional reactivity (Doba et al., 2022). Conversely, hypermentalization is the tendency to make excessive interpretations about mental states (i.e., individuals assume they know what others are thinking and feeling) despite clear evidence to the contrary (Bateman et al., 2004). This reflects a 'pretend mode' of functioning, characterised by detailed accounts about mental states (Fonagy, 2016). Thoughts and feelings (mental states) are therefore disconnected from reality; often leading to dissociation and derealization. Expectedly, hypermentalization is usually related to negative self-image and psychopathology. Together with low self-esteem, hypermentalizing leads to self-attribution (Fonagy, 2016).

Mentalization capacity and the use of pre-mentalizing modes are influenced by developmental factors. This includes primary caregiver's ability to mirror and mark emotions (Fonagy et al., 2002). This process helps individuals recognise and label their own mental states; thus, seeing themselves as a separate entity (in other words having a separate mind). Mentalization is also developed by a primary caregiver's ability to be caring, attentive and nurturing. This enables infants to see others as 'non-threatening' (Fonagy & Bateman, 2016). Through the cycle of being mentalized and nurtured, children develop a sense of self and emotional agency (Fonagy et al., 2013). In contrast, absent parental mirroring impairs

the capacity to mentalize and self-regulate. This disruption in parental mirroring may occur in several contexts including neglect and abuse (Condino et al., 2022).

5.1.2. Mentalization and offending behaviours

As aforementioned mentalization is necessary for social and mental functioning. This allows individuals to see their own mind from that of another, enabling them to envision the subjective state of others, and to attach to others safely (Bateman et al., 2004; Fonagy, 2006). Difficulties in mentalizing are thought to underpin violent and aggressive behaviours (Condino et al., 2022). Although no studies have directly addressed the relationship between non-contact offending and mentalization, mentalizing deficits have been observed in victims and perpetrators of intimate partner violence (Amaoui et al., 2022; Condino et al., 2022). Such individuals have demonstrated difficulties evaluating and appraising their own thoughts against others; thus, relying on excessive certainty and a concrete thinking style (hypomentalizing; Gagliardini & Colli, 2019; Gagliardini et al., 2020). Deficits in mentalization are also observed in other types of violent perpetrators. Such individuals have demonstrated difficulties in envisioning the mental states of their victims (Fonagy & Levinson, 2004; Lorenzini & Fonagy, 2013; Möller et al., 2014). Of relevance, mentalizing deficits has been observed individuals that use controlling and coercive behaviours towards partners, a similar tactics adopted by perpetrators of revenge pornography. With perpetrators of intimate partner violence, which includes physical, sexual, and emotional abuse and controlling behaviours by an intimate partner, they have demonstrated a tendency to rely on hypomentalization, and teleological modes of thinking (Codino et al., 2022; Gagliardini & Colli, 2019; Gagliardini et al., 2020). These findings are consistent with research showing that offenders with violent histories have a particular tendency to hypomentalize. Ubillos-Landa et al. (2020) suggested that the reduced ability to mentalize about others' mental states (hypomentalize) is linked to empathy deficits or a callous disregard for others, which in turn, may be associated with greater interpersonal problems and behavioural difficulties. On the other hand, hypermentalization has been largely associated with features of personality disorder symptoms, including self-harm, regulation problems, anger and interpersonal problems/social impairment (Fonagy et al., 2016; Veloti et al., 2021). This is unexpected considering hypomentalization and hypermentalization tap into opposite dimensions of mentalizing.

With regards to victims of domestic violence, they have demonstrated a tendency to make excessive interpretations of the mental states of others (hypermentalize; Both & Freitas, 2019). For instance, female victims of intimate partner violence have demonstrated lower reflective functioning, characterised by disorganised mental states (Codino et al., 2020). With bullying, which involves the use of coercion, humiliating, aggressively dominating and abusive practices, victims have demonstrated a tendency to internalise problems (hypermentalizing) than externalizing (hypomentalizing; Bucci et al., 2023). The findings that victims tend to internalize problems is consistent with the theoretical assumptions that victims experience feelings of helplessness and shame and therefore internalise problems (hypermentalization; Fonagy, 2016); whereas, the finding that perpetrators externalize problems, is in the line with perpetrators usually feeling 'anger' which helps externalize problems (Anđelković & Jovančević, 2023). Nevertheless, individuals that have been victimised, abused, or exploited on the web have been found to develop difficulties in mentalizing, increasing risk of repeated victimisation (Penner et al., 2019). When communicating online, individuals are unable to pick up signs of empathy so mentalizing is further affected (Takahashi et al., 2013). Difficulty in mentalizing might also compromise the evaluation of risk and assumed trust in web-based interactions, for instance, the exchange of sexual images. Overall, the mentalization profile of victims and perpetrators has yielded mixed findings. A methodological reason for this relates to lack of psychometric tools examining mentalizing deficits.

Mentalizing deficits are measured using the Reflective functioning questionnaire (RFQ, Fonagy et al., 2016). Briefly, the RFQ measures the tendency to use the two pre-mentalizing modes: hypomentalization ('certainty about mental states') and hypermentalization ('uncertainty about mental states'). Although, teleological errors are included in the mentalization-based model, these are not measured in the RFQ. Instead, it is assumed that this pre-mentalizing mode/ way of thinking is driven by both an 'uncertainty' and 'over-certainty' about one's own and others' mental states (Fonagy et al., 2016). Thus, it has been operationalised as an anticipated outcome of hypomentalization, as the focus is on actions and outcomes (Fonagy et al., 2016). High scores across the RFQ subscales are presumed to reflect deficits in mentalization that can be targeted by specialised psychotherapeutic approacesh, that is, mentalization-based treatment.

Mentalization-based treatment (MBT) has been manualised for people with violent and sexual offending histories and victims (Fonagy et al., 2004). MBT helps address difficulties related to affective instability, impulsivity, and interpersonal functions; issues which are related to incidences of abuse and control (Fonagy, 2016). Whilst there is empirical evidence examining the specific contribution of mentalizing based approaches in relation to abusive and aggressive behaviours (Fonagy et al., 2020), majority of the empirical evidence stems from randomised controlled trials with violent and sexual offenders. These trials have indicated that MBT is an effective treatment for difficulties associated impulsivity, emotional dysregulation, interpersonal functioning, and aggression; thus, aiding individuals to adopt more perspective taking, promote empathy, and social functioning (Bateman et al., 2016; Fonagy, et al., 2005; Fonagy et al., 2009; Fonagy et al., 2011; Stein, 2006).

However, mentalizing differences/capacities in relation to revenge pornography victims and perpetrators is yet to be established. The clinical implications of using mentalizing based approaches to assess and treat victims and perpetrators of revenge pornography is also unknown. Exploring the link between mentalizing capacities and revenge pornography perpetration and victimisation therefore has clinical and theoretical implications; it might highlight mentalizing deficits that can be addressed through MBT.

5.1.3. Aims

There is a noticeable paucity of research on victims and perpetrators of revenge pornography, even more so in relation to the treatment of such individuals (Powell et al., 2019). Exploring this has important clinical and theoretical relevance, in particular with MBT demonstrating to be an effective intervention for victims and perpetrators of violent, sexual offences. Establishing specific mentalizing deficits (i.e., hypomentalizing and hypermentalizing) may also highlight mentalizing difficulties that could be potentially addressed in MBT. In line with the limited knowledge of mentalizing capacities in offending populations, it was hypothesised that: perpetrators would demonstrate more deficits relating to understanding their and others' mental states, indicated by higher scores on hypomentalization dimension, in comparison to victims. It was also hypothesised that victims would demonstrate greater difficulties arising from the hypermentalization dimension in comparison to perpetrators.

5.2. Methodology

Core methodology has been documented within chapter 3. For this study participants completed the Reflective Functioning Questionnaire (Badoud et al., 2015; Fonagy et al., 2016).

5.3. Results

Data was analysed using the Statistical Packages for Social Sciences (SPSS version 26) software. A data screen was conducted to check for any errors in the data; participants that did not specify demographic variables (i.e., gender, relationship status, sexual orientation) were excluded from analyses. No participants attained high scores (reflecting social desirability or exaggerated responding) on the social desirability scale, so no data/responses were excluded from the analyses. As majority of participants self-reported being single and identified as having a heterosexual orientation. Therefore, a decision was made to combine the groups divorce, and separated into a single group, referred to as 'Committed relationship at some point'. With regards to sexual orientation, participants that self-identified as being non-heterosexual add here were combined into the 'non-heterosexual' group. Age was categorised into young adults (18-24 years) and adults (25-45 years old). Preliminary analyses were also performed to determine the normal distribution of data and ensure that the assumptions for parametric statistical tests were met. A significance of $p < .05$ determined if the analyses and any interactions between the variables were statistically significant.

5.3.1. Data analysis

The data was analysed into two parts:

1. Group demographic differences were explored using Chi-square tests for categorical variables (gender, sexual orientation, and relationship status).
2. Differences in mentalizing capacities between the two groups (victims vs. perpetrators) were investigated using a one-way ANOVA with the RFQc and RFQu as the dependent variables and perpetrators/victims as the between subjects independent variable.

5.3.2. Descriptive analysis

Table 5.1 details the frequencies of revenge pornography behaviours, mentalizing dimensions and demographic variables of the participants. This shows that the study analysed a sample of 841 respondents. Of these, 50.1% identified as having perpetrated revenge pornography behaviours at some time in their lifetime, in comparison to 49.1%. A higher proportion of participants identified as male (62.9%) in comparison to females (37.1%). 62.9% of the sample was aged between 18 and 24 years old, with a mean age of 23.62 years and a standard deviation of 4.11. Majority of the sample (93.2%) identified as being single, in comparison to 6.8% that identified as having been in a committed relationship at some point. Comparatively, 82.6% of participants identified as being heterosexual with 17.4% that identified as non-heterosexual, endorsing responses of 'bisexual', 'lesbian', or 'other'.

Table 5.1: Frequencies of revenge pornography behaviours and demographic variables (n=841)

Variable	***n* (%)**
Perpetrated revenge pornography	428 (50.9%)
Experienced revenge pornography	413 (49.1%)
Age	
18-24 (young/emerging adults)	529 (62.9%)
>25 (Adults)	312 (37.1%)
Gender	
Female	312 (37.1%)
Male	529 (62.9%)
Relationship status	
Single	784 (93.2%)
In a committed relationship (at some point)	57 (6.8%)
Sexual orientation	
Heterosexual	695 (82.6%)
Non-heterosexual (other)	146 (17.4%)

5.3.3.Bivariate analysis

An analysis of the data using Chi Square tests of independence found a significant association between gender and revenge pornography behaviours. Specifically, females more likely to be victims of revenge pornography X2 (1, N = 841) = 164.35, *p*<.001 and males more likely to be perpetrators X2 (1, N = 359) = 3.83, *p*<0.05. Age was also found to have a significant association with revenge pornography behaviours, with younger adults more likely perpetrate or experience revenge pornography in comparison to older adults, X2 (1, N = 841) = 11.50, *p*<.001. Perpetrating revenge pornography or being a victim had no significant association with sexual orientation or relationship status. See Table 5.2.

Table 5.2

Chi-square analysis for perpetrating or experiencing revenge pornography and demographic variables (n=841)

Variable	**Perpetrators**		**Victims**			
	N	**%**	**N**	**%**	**X^2**	**DF**
Age					**11.50*** **	
18-24	318	60.1	211	67.8		
<25	211	39.9	101	32.2		
Gender					**164.35*** **	1
Female	69	22.1	243	77.9		
Male	359	67.9	170	32.1		
Relationship status					.681	1
Single	491	92.8	293	93.9		
Committed relationship	38	7.2	19	6.1		
Sexual orientation					.762	1
Heterosexual	432	81.7	263	84.3		
Other	97	18.3	49	15.7		

*** = p<.001

X^2 = chi-square value; DF = degrees of freedom

5.3.4. Mentalizing capacities: Group differences

A one-way ANOVA explored differences in RFQc scores between victims and perpetrators. The results of the one-way ANOVA indicated a significant difference between RFQc scores of the two groups, F (1, 839) = 46.661, *p*<.001. Victims demonstrated more deficits relating to the hypermentalization dimension than perpetrators. A one-way ANOVA was also conducted to compare differences in RFQu scores between victims and perpetrators. Results of the one-way ANOVA indicated a significant difference between RFQu scores of the two participant groups F (1, 839)= 21.469, *p*<.001, indicating that victims also demonstrated more deficits relating to the hypomentalizing subscale in comparison to perpetrators. See table 10 for means, standard deviations and effect sizes.

Table 5.3

Group differences for mentalizing variables in revenge pornography perpetration and victimisation.

	Perpetrators		**Victims**			
Mentalization Dimensions	**N**	**M (SD)**	**N**	**M (SD)**	**F (1, 839)**	**η^2**
Hypermentalization	429	1.19 (.78)	414	1.95 (1.02)	46.66	0.05
Hypomentalization	429	1.29 (.98)	414	1.79 (1.29)	21.47	0.02

***p < .001.**

5.4. Discussion

This study sought to explore the mentalizing differences between perpetrators and victims of revenge pornography. This was the first study of its kind to explore such variables in relation to revenge pornography.

5.4.1. Main findings

The first hypothesis, stated that perpetrators of revenge pornography would demonstrate more deficits relating to mental states in comparison to victims, was not supported. The findings of this study provided contrary findings to previous research (Bateman et al., 2016; Codino et al., 2022). Research has generally found that perpetrators of sexual and other forms of violent offences exhibit greater impairments in mentalizing arising from reduced mental state awareness and difficulties in perspective taking (Bateman et al., 2016; Codino et al., 2022). Although, it seemed reasonable to hypothesise that revenge pornography perpetrators would also demonstrate the same mentalizing impairments regarding this dimension, such findings were not found. Instead, this study found that victims of revenge pornography exhibited greater difficulties arising from the hypermentalization dimension in comparison to perpetrators, reflected by higher scores on this subscale compared to perpetrators. One possible interpretation of this finding relates to the function of hypomentalization, namely, to regulate strong and overwhelming emotions, a strategy of emotion regulation that is observed in victims (Fonagy et al., 2016).

The discrepancy between this finding and the available literature may also attributable to the use of a single mentalization, which may be less likely to accurately identify specific mentalization dimensions (Bateman, 2016). Further, contrasting findings may stem from the use of different measurements of mentalizing across studies. Indeed, establishing a link between hypomentalizing and perpetration is complex, because mentalizing accounts for other cognitive processes such as Theory of Mind, empathy and reflective functioning. Other factors (i.e., epistemic trust) also play a crucial role in mentalizing errors (Fonagy et al., 2020). Mentalizing also includes dimensions such as implicit/explicit; internal/external; self/other; and cognitive/affective processes. However not all measurements of mentalizing including the RFQ are not able to fully capture these processes (as discussed in chapter 3).

In addition, it could be argued that the relationship between hypomentalization and offending behaviours reported in the literature is mainly found on participants diagnosed with personality disorder and other complex clinical presentations (Fonagy et al., 2016). Therefore, using a combination of measures to assess different dimensions of mentalizing may be beneficial in the future, since the present study was unable to use a combination tools that measure the different dimensions of mentalizing. It is also worth noting that the RFQ has been designed and used to assess hypomentalizing and hypermentalizing in heterogeneous samples (i.e., individuals with a formal diagnosis of personality disorder, and eating disorder). Thus, further research is needed to validate these subscales using a more homogenous population.

The second hypothesis, which stated that victims would demonstrate greater difficulties arising from hypermentalization dimension in comparison to perpetrators, was supported. Hypermentalization involves over-attributing mental states in the form of misattributions, without appropriate supporting evidence (Fonagy, 2016). For individuals that express more negative representations of others' actions, they experience greater level of distress and sensitivity to interpersonal rejection, which can lead to victimisation (Sharp & Vanwoerden, 2015). In addition, hypermentalization, in extreme cases can lead to dissociation. This is frequently observed in victims of sexual violence and abuse (Huang et al., 2020). Hypermentalization might help dissociate from difficult thoughts and feelings (related to abusive experiences; Gagliardini & Colli, 2019). Victimisation may also lead to the development of negative schemas, an, altered social cognition, and subsequently the tendency to hypermentalize (Abate et al., 2017; Berthelot et al., 2022; Winsper et al., 2017). Additionally, one cannot exclude the possibility that victims may endure other forms of abuse and are therefore exposed to continuous trauma (Both et al., 2019). This trauma could lead to difficulties in mentalizing including misattributing stimuli as threatening and/ or overattributing threatening intentions to others (reflecting hypermentalization; Both et al., 2019; Gagliardini & Colli, 2019; Gagliardini et al., 2020). This is supported by studies showing that exposure to abuse leads individuals to have heightened perceptions of threats and overattributing others' intentions as threatening. Whereas under attribution of mental states (hypomentalization) may also be consequence of trauma and abuse (Abate et al., 2017), and service a different function to victims- i.e. it might be used a self-regulation

strategy. However, these theoretical explanations require further exploration in relation to revenge pornography. It would be important to clarify these findings and further examine differences in mentalizing amongst revenge pornography perpetrators and victims to control groups. This hasn't been possible as of yet as the RFQ is not validated in offending samples and has only been used with clinically diagnosed samples.

5.4.2. Limitations

A number of limitations must be considered for this study. First, a convenient sampling was used, increasing the chances of sampling bias. Due to the cross-sectional nature of the study design, it was difficult to determine a causal relationship/ the direction of the findings. In order to explore causality, longitudinal research is needed to support some of the findings of this study. In addition, the study did not account for the type of revenge pornography behaviours victims experienced or perpetrators engaged in. Thus, future studies should investigate the impact of this variable. An additional limitation relates to the use of self-reported measures, which reduced the reliability of the findings due to social desirability and impression management. Considering this study was the first to explore mentalizing capacities in revenge pornography victims and perpetrators, there were also no exclusions which presents a further limitation. Finally, some limitations of the primary assessment measure, the RFQ, must be considered. Due to majority of research on mentalizing capacities using the RFQ being conducted in clinically diagnosed populations, it was not possible to conduct the study's comparisons with a normative control group. Indeed, the literature has often reported that clinically diagnosed populations (i.e., individuals with anorexia nervosa, personality disorders etc.) have poor psychological insight and experience significantly higher levels of distress which may impact their performance on mentalization measures (Fonagy et al., 2016).

5.4.3. Implications and recommendations

While a number of limitations were evident, research into revenge pornography is still emerging. Positively, this research has attempted to explore an under researched area. By doing it so, has provided evidence for differences in mentalizing capacities between perpetrators and victims. Specifically, it has demonstrated that victims significantly presented with more mentalizing impairments related to the mentalizing dimensions:

hypomentalization and hypermentalization. This seems to support the claim that victims experience difficulties interpreting/making sense their mental states, highlighting a deficit that can be targeted through the use of MBT in therapy. However, as with any psychological intervention, further research should be conducted to provide evidence for its clinical relevance and effectiveness with victims of revenge pornography. Future research should also employ a range of mentalizing measures to examining the mentalizing capacities of revenge pornography victims and perpetrators and compare to a control group. This will increase the understanding of (potential)mentalizing deficits associated with individuals that experience or perpetrate revenge pornography behaviours.

5.4.4. Conclusion

The present study was the first to examine the mentalizing capacities of revenge pornography victims and perpetrations. Previous research has focused on mentalizing deficits in sexual offending and violent populations (Fonagy, 2016). Understanding the characteristics of those that engage in perpetration or victim has important clinical implication for treatment and intervention (Henry et al., 2020). Although the results presented some tentative findings for victims, mentalizing deficits in victims and perpetrators might be addressed through MBT. This indicated that a focus on mentalizing capacities, in particular mentalizing deficits, could help individuals lean toward more complex ways of understanding the mind/mental states. However, this would require further research.

Chapter Six: Discussion

6.1 Introduction

This chapter provides a general discussion of the four main chapters of this thesis. Theoretical and research implications are also discussed in order to mitigate some the limitations (discussed throughout the thesis) and extend the knowledge presented within each chapter. The aim of this thesis was to contribute to the understanding and knowledge of revenge pornography behaviours. To achieve this, a systematic review was conducted examining factors associated with revenge pornography perpetration. A methodology and psychometric critique explored the appropriateness of the methodology and psychometric tools used within this thesis. Two empirical studies were conducted, which examined the attachment styles and mentalizing capacities of revenge pornography perpetrators and victims.

6.2. General discussion

The systematic review presented in chapter two sought to increase the understanding of revenge pornography behaviours by examining and synthesising all the available literature exploring factors associated with revenge pornography perpetration. To the author's knowledge, this was the first piece of research to do this. Two previous systematic reviews explored variables of interest to the systematic review, but focused primarily on perpetration and victimisation rates, demographic differences, health outcomes for victims, and issues implementing revenge pornography laws. An inclusion and exclusion criteria was applied to studies to minimise biases/ ensure the studies chosen were of a good standard and increase the reliability of the overall findings. Thirteen studies were included in the review.

The review identified a number of factors associated with revenge pornography, where these factors could be understood within frameworks presented in chapter one. Using Nested Ecological Model (Dutton, 1989) for example, the findings from the systematic review indicate that, at the macrosystem level, revenge pornography perpetrators were more likely to endorse myths/beliefs that serve to blame the victims and minimise the severity of the act. At the ontogenetic/individual level, factors that were associated with

revenge pornography perpetration included psychological difficulties, dark triad personality traits, increased substance consumption and other risky behaviours. Some factors identified at the microsystem/family level included childhood abuse. Although, the review did not find evidence for all the variables considered across the four ecological levels, future research may explore this. Applying another framework, Jessor's (1987) 'Problem behaviour theory' factors associated with revenge pornography perpetration into the 'four factors': individual factors (i.e., age, gender, sexuality, personality variables, attitudes etc.); environmental factors (peer pressure, friendship structures). Both frameworks offered some insight into processes involved in sexual offending behaviours, including how (risk) factors interact with each other at different levels to increase a vulnerability to perpetrate sexual offending behaviours. Applying this frameworks to revenge pornography perpetration specifically, also helped highlight possible interactions between factors that are worth further exploration. In particular, some factors were more prevalent and consistently examined. These related to gender, age, attitudinal variables and victimisation. The systematic review also highlighted some of the methodological limitation in the revenge pornography literature. The main limitation related to varying definitions and methodologies used to examine revenge pornography behaviours. .

Chapter three presented a critique of the methodology and psychometric tools used in the empirical studies in chapters four and five. The psychometrics properties of the Experiences of Close Relationships (ECR; Brennan et al., 1998) and the Reflective Functioning Questionnaire (RFQ; Fonagy et al., 2016) were examined and compared to adapted and other alternative tools measuring adult attachment styles and mentalizing capacities respectively. The findings from this critique indicated that both the ECR and RFQ have demonstrated high internal reliability and long-term test-retest reliability, indicating its consistency across populations. The ECR in particular was noted to have the largest evidence base (compared to its adapted version) and that it has been used in research with different populations. This provided evidence for cross-cultural reliability and validity (construct and convergent validity). Further support for the ECR's reliability came from the strong relationship between the ECR and other measures of adult attachment. With regards to the RFQ, it demonstrated good construct validity, with reported strong associations with broad indicators of personality dysfunction, measures of emotional lability, impulsivity and

measures of mentalizing the self (Fonagy et al., 2016; Morandotti et al., 2018). Some general criticisms and limitations of both measures were noted. For the RFQ, it was noted that some aspects of mentalization were not fully captured using the measure. Specifically, that the RFQ captures more difficulties related to the hypomentalization dimension. With the ECR, it was noted that it has not been examined with forensic/offending populations, so normative data could not be used to make meaningful comparisons/interpretations. Despite this, they were considered to have psychometric properties superior to the other psychometric tools measuring attachment styles and mentalizing capacities respectively. A need for further research with forensic populations including revenge pornography perpetrators and victims was highlighted.

When considering the development of the empirical studies presented within this thesis, it became apparent that the revenge pornography literature lacked empirical investigations into factors associated with both perpetration and victimisation. To address this, the study presented in chapter four examined the attachment styles of revenge pornography victims and perpetrators. It was noted that theories of sexual offending and other forms of abuse and revenge practices had considered the role of disrupted early attachment (and subsequently development of insecure attachment styles) but this had not been explored in relation to revenge pornography perpetration or victimisation.

The study found a significant relationship between gender and revenge pornography perpetration and victimisation: male participants significantly reported higher levels of perpetration (in comparison to female participants) and female participants significantly reported higher levels of victimisation (in comparison to male participants). This association was supported by previous research (i.e., Barrense-Dias et al., 2020; Barroso et al., 2021; Boer et al., 2021; Eaton et al., 2017; Harder et al., 2019; Maas et al., 2021; Morelli et al., 2016; Powell et al., 2019; Powell et al., 2022) and more generally the gender debate surrounding revenge pornography behaviours and online sexual violence (Henry et al., 2020; Mass et al., 2019). It was suggested that this significant association could be explained by gender differences in motivations to perpetrate and/or beliefs/attitudes in relation to revenge pornography (Eaton et al, 2017; Mass et al., 2019). There were no other significant association between demographic factors and revenge pornography perpetration and

victimisation, though it was noted that more demographic variables (i.e., employment/education status, victim experiences, ethnicity etc.) could have been considered within this study for a more in-depth analysis.

Further analyses found that having a preoccupied attachment style (low avoidance/ high anxiety), whereby individuals have a negative working model of self and positive model of others and therefore adopt and 'all-or-nothing', proximity-seeking approaches to relationships, was associated with perpetration for male participants. It was discussed that individuals with a preoccupied attachment style have a hyperactive attachment system. This means they are vulnerable to experiencing more intense feelings and reactions (i.e. coercive and aggressive behaviours; Kim, 2022). It was further suggested that revenge pornography behaviours might act as an activating strategy for preoccupied attached individuals to preserve the relationship/ seek proximity to attachment figures, and to alleviate uncomfortable feelings as evidenced in other forms of offending behaviours (Kural & Kovacs, 2022; Powell et al., 2022). However, it was concluded that further empirical investigations were required to understand the (psychological) mechanisms underpinning the association between revenge pornography perpetration and having a preoccupied attachment style.

Chapter five presented the second empirical study, examining the relationship between mentalizing capacities and revenge pornography perpetration and victimisation. Unexpectedly, the study found that victims demonstrated more deficits in the hypomentalization dimension (in comparison to perpetrators). This contradicted the research demonstrate that perpetrators experienced greater levels of impairments relating to the hypomentalization dimension (Fonagy et al., 2016). A possible explanation for this unexpected finding was the function of hypomentalization, namely, to regulate strong and overwhelming emotions, a strategy of emotion regulation that is observed in victims. The study also found that victims (compared to perpetrators) demonstrated greater mentalizing difficulties arising from the hypermentalization dimension This was expected considering hypermentalization is associated with dissociation, misattributions of negative attributes, which is commonly found in victims of sexual violence (Huang et al., 2020). Further exploratory analyses confirmed significant difference in scores between perpetrators and

victims on the mentalizing dimensions. It was suggested that this could have implications for intervention: targeting these specific mentalization deficits with victims through the use of MBT. The study concluded that the findings that victims of revenge pornography might demonstrate more mentalizing deficits, warranted further exploration to understand the psychological mechanisms underpinning this relationship and to inform practice.

6.3. Implications and recommendations

Implications and recommendations have been considered individually under the discussion section for each chapter, but an overview of some these are discussed here. Synthesising the findings presented in the systematic review, revenge pornography perpetration appears to be associated with a range of factors. This suggests that revenge pornography perpetration cannot be explained by a 'single factor theory', supporting the use of multi-factorial frameworks that draw upon several theoretical explanations to understand the function of /and motivations for revenge pornography perpetration. This also suggests that a 'one-size-fits-all' approach to intervention may not be effective; instead, interventions should consider the range of motivations (i.e., peer influence, to control victims, for enjoyment etc.) that already have empirical support and are linked to other forms of sexual offending behaviours. Further, the review highlighted some factors (i.e. as demonstrated in table 2.3 within chapter 2) that were not consistently explored and would benefit from further empirical investigations. Majority of the findings also came from student samples,. Thus, future research should focus on recruiting a more diverse and representative sample of the population, to increase generalisability of findings. A uniform approach to defining revenge pornography behaviours was also recommended, to enhance the generalisability of the findings. The methodology and psychometric critique highlighted that reliability and validity of the ECR and RFQ with offending populations is yet to be established. Thus a need for such measures to be validated with offending samples, in order to provide norms for researchers to make meaningful comparisons.

The results of the empirical study presented in chapter four mirrored some of the empirical findings on insecure attachment patterns and offending behaviours. Although, some theoretical explanations were provided (i.e., offending behaviours potentially having a self-regulatory or attachment seeking function), more research is still needed to understand the

mechanisms underpinning the association between male revenge pornography perpetration and having a preoccupied attachment style, as well as, the lack of significant association between revenge pornography perpetration and having a dismissive-avoidant attachment style. Nevertheless, implications for practice were suggested within the 'discussion' section of this chapter, including understanding and formulating the context in which the attachment system is threatened and methods used to manage this.

The second empirical study presented in chapter five continued exploring factors associated with revenge pornography perpetration and victimisation. This study found that victims had greater mentalizing deficits when comparing to perpetrators, perhaps due to hypermentalization being associated with dissociation, low self-esteem, poor solving skills, communication problems, which is commonly found in victims of sexual violence (Huang et al., 2020). This highlighted potential variable of interest that can be explored in relation to revenge pornography victimisation. The findings suggested that mentalization-based approaches might have utility in promoting mentalizing for victims. As the clinical utility and effectiveness of MBT has been examined in research regarding psychopathology and other forms of violent and sexual offending, it was recommended that research focus on its clinical use with victims of revenge pornography. Overall, the findings from both empirical studies could contribute to theories discussed in chapter one. Specifically, that revenge pornography perpetration and victimisation may occur as a result of the interaction between various factors including attachment styles and mentalizing capacities.

6.4. Limitations

Although limitations have been considered individually for each chapter, but an overview of some these are discussed here. The main limitations found throughout this thesis elated to the definition of revenge pornography. Firstly, there was a lack of consistency of revenge pornography definitions within research. This limited the ability to make comparisons. As aforementioned, it is imperative that a uniform definition of revenge pornography (including the behaviours that fall under the term) is developed. The systematic review included studies that were of a cross-sectional nature, limiting their external validity. Secondly, the empirical studies presented in chapters four and five were cross-sectional in nature; limiting the ability to determine casual inferences. Although a psychometric tool

assessing social desirability and impression management was used, future research would benefit from of longitudinal study designs to determine the inference of causality between factors that are thought to be associated with revenge pornography behaviours. Similarly, the demographic questionnaire only collected limited amount variables related to participants' socio-demographics. Collecting additional demographic variables may have captured a better understanding of characteristics of revenge pornography perpetrators and victims. Only capturing some variables (attachment and mentalization) also limited a more in-depth investigation of potentially individual differences between perpetrators and victims. As a result, it is possible some important information was not captured. Future research might want to focus on variables that were not explored in chapters four and five. This in turn, will increase the understanding of factors associated with revenge pornography behaviours.

Due to ethical considerations (e.g. victim/perpetrator anonymity, the potential harm this research could cause, the ability to obtain an adequately-sized sample), it was not considered possible to obtain as ample of convicted revenge pornography perpetrators and victims within the time frame of the studies. Another limitation was excluding participants under the age of 18; despite revenge pornography behaviours are prevalent amongst adolescents and young people. A reason for this was discussed in the participant section of the methodology and psychometric critique, outlining ethical concerns regarding the nature of the research topic and legislations concerning young people experiencing or perpetrating this abuse.

Finally, it is important to note that this thesis was submitted in part fulfilment of a Doctorate in Forensic Psychology, impacting the time and resources spent on the empirical chapters. Furthermore, recruitment for the empirical studies presented was carried out through the Internet as a result of the COVID-19 pandemic. This presented some limitations. Whilst it can be argued that revenge pornography is most frequently perpetrated online and therefore easier to access victims and perpetrators (of revenge pornography) online, the thesis could have benefitted from the use of a mixed methodology approach/adopting qualitative analyses. Similarly, a case study approach would have provided in depth

exploration of the psychological mechanisms driving this abuse. However, considering this thesis is an original contribution to the field of revenge pornography and was completed within the constraints of doctoral thesis, it is important that further empirical enquiries are undertaken on this under-research topic.

6.5. Conclusion

Overall, this thesis achieved its aim to increase the current research and knowledge regarding revenge pornography perpetration and victimisation, and potential psychological underpinnings. It is clear throughout this thesis that research on revenge pornography perpetration and victimisation is lacking, even more so, theoretical explanations for such behaviours. As with most under-researched topics, more and better research is required. Only then, it will be possible to establish factors that are most relevant and provide theoretical explanations and effective interventions for victims and perpetrations. As technology continues to emerge, and methods of perpetration continue to evolve, it is hoped that this thesis will encourage further empirical analyses of this phenomenon.

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Appendices

Appendix A: Example of search strategy

1.	sext*
2.	sexting and revenge
3.	sex text*
4.	pornography/
5.	porn* or sex*
6.	private* or intimate*
7.	nude or naked or explicit
8.	photo or picture or image*
9.	message or text messages
10.	social media or internet
11.	technology or digital
12.	cyber or online
13.	revenge
14.	veng*
15.	reprisal
16.	retaliation
17.	retribution
18.	forward or share
19.	take or produce
20.	revenge porn*
21.	revenge and internet
22.	non-consensual shar*
23.	image-based sex*
24.	abusive sext*
25.	deepfake
26.	online sex crime or offen*
27.	online sexual crime
28.	technology facilitated violence
29.	cyber offen*
30.	cyber violence
31.	deepfake
32.	voyeurism
33.	creepshot
34.	upskirt*
35.	up-skirt*
36.	downblouse
37.	down-blouse
38.	factor or risk factors
39.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9
40.	10 or 11 or 12
41.	13 or 14 or 15 or 16 or 17

42.	18 or 19
43.	20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32
44.	33 or 34 or 35 or 36 or 37
45.	39 or 42
46.	40 and 45
47.	38 and 43
48.	38 and 44
49.	40 and 41
50.	39 and 42

Appendix B: Data extraction Form

General information	
Date of extraction	
Title	
Authors/year	
Country of Origin	
Publication status	
Source (i.e. specify database)	

Specific information	
Study design	
Aims and objectives	
Definition of revenge pornography (or related terms/behaviours)	
Participants (including characteristics of population and sample size)	
Methods/recruitment	
Inclusion/exclusion criteria	
Methods used and variables measured)	
Statistical analyses	
Results	
Strengths/limitations	
Author's conclusions	
Quality assessment score	

Appendix C: Adapted Quality Assessment Form

Screening questions					
Study validity	**Y (2)**	**P (1)**	**N (0)**	**U (0)**	**Comment(S)**
1. Were research objectives clearly stated?					
2. Does the study focus on characteristics of revenge pornography perpetration?					
3. Does the study include a clear definition of revenge porn?					

Continue only if answered **YES** to all of the above questions.

Quality criteria	**Y**	**P**	**N**	**U**	**Comment(S)**
Study design					
4. Was the study design (i.e., cross-sectional, cohort, case control) described and appropriate?					
Sampling/selection bias					
5. Was the method of selection/recruitment and study population described and appropriate? **6.** Was statistical power considered and reported? **7.**Was the sample size appropriate? **8.** Was a satisfactory response rate achieved? **9.** Were participants selected or recruited from the same or similar populations? **10.** Did the study use a comparison group?					
Measurement/performance bias					
11. Were exposure(s) of interest measured before the outcome measures? **12.** Was the follow up period completed and long enough? **13.** Was an acceptable proportion of the cohort followed up? **14.** Were the exposure measures described, accurate, valid and implemented across all groups/participants? **15.** Were the exposure measures used more than once? **16.** Were the outcome measures described, valid and implemented across all groups/participants? **17.** Was missing information dealt with appropriately?					
Statistical bias					
18. Were the method of analyses described and appropriate for study design? **19.** Were assumptions of the data tested/reported (i.e., normality, homogeneity)? **20.** Are the results reliable? **21.** Were confounding variables identified and					

controlled for? **22.** Were rates and/or reasons for drop-out/non-completion reported? Was participant attrition rates reported? **23.** Were results clearly reported?					
Applicability of findings					
24. Can the findings/results be generalised? **25.** Does the study contribute to the literature?					

Total quality score: _/50

Scoring:
Y (Yes)- 2
P (Partial)- 1
N (No)-0
U (Unclear) = Attempt to contact author for further information.

Additional questions for case control					
	Y (2)	**P (1)**	**N (0)**	**U (0)**	**Comment(S)**
1. Were the cases recruited in an appropriate way?					
2. Were the controls recruited in an appropriate way?					
3. Was the population clearly defined?					
4. Was the exposure accurately measured?					

Additional questions for cohort					
	Y (2)	**P (1)**	**N (0)**	**U (0)**	**Comment(S)**
1. Were the cohort recruited in an appropriate way?					
2. Was the exposure accurately measured?					
3. Were the outcome measurement methods similar in the different groups					
4. Was the follow up period specified?					
5. Was an acceptable amount of the cohort followed up?					

Additional questions for randomized control/controlled trials					
	Y (2)	**P (1)**	**N (0)**	**U (0)**	**Comment(S)**
1. Was the assignment to group randomized?					
2. Was the allocation concealed from researchers?					
3. Were the groups treated equally?					
4. Were the group similar at the start of the intervention?					

Appendix D - Quality of included studies

Study	Initial Screening (max=6)	Study design (max=2)	Sampling and selection bias (max=8)	Measurement bias (max=6)	Attrition bias (max=4)	Statistical bias (max=6)	Results (max=8)	Score (max=40)
Barrense-Dias et al. (2020)	6	2	7	3	0	2	7	27/40
Barroso et al. (2021)	6	2	8	4	0	2	8	30/40
Boer et al. (2021)	6	2	4	3	4	5	8	33/40
Clancy et al. (2019)	6	2	7	3	0	3	6	27/40
Eaton et al. (2017)	6	2	7	3	0	0	1	20/40
Harder et al. (2019)	6	2	7	3	0	2	7	27/40
Karasavva & Forth (2021)	6	2	8	4	0	2	8	30/40
Maas et al. (2021)	6	2	6	2	2	2	7	25/40
Morelli et al. (2016)	6	2	4	0	2	8	8	28/40
Powell et al. (2019)	6	2	6	3	3	3	8	31/40
Powell et al. (2022)	6	2	4	3	0	2	8	25/40
Trendell, (2019)	6	2	5	4	0	3	8	28/40
Walker et al. (2019),	6	2	5	2	0	2	8	25/40

Appendix E: Advertisement poster

Appendix F: Ethical approval for the primary and secondary research studies

University of Nottingham
UK | CHINA | MALAYSIA

Faculty of Medicine & Health Sciences
Research Ethics Committee
Faculty Hub
Room E41, E Floor, Medical School
Queen's Medical Centre Campus
Nottingham University Hospitals
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30 November 2020

Ana Dias
Top Up Doctorate Forensic Psychology Student
c/o Division of Psychiatry and Applied Psychology
School of Medicine
Room B06, YANG Fujia Building
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Wollaton Road
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Dear Ms Dias

Ethics Reference No: FMHS 105-1020 – **please always quote**	
Study Title: Attachment styles and mentalizing capacities of revenge pornography perpetrators and victims.	
Chief Investigator/Supervisor: Dr Kathleen Green, Assistant Professor, Centre for Family and Forensic Psychology, Psychiatry and Applied Psychology, School of Medicine.	
Lead Investigators/student: Ana Dias, Top Up Doctorate Student Forensic Psychology, Psychiatry and Applied Psychology, School of Medicine	
Proposed Start Date: 01/10/2020	**Proposed End Date:** 01/10/2021

Thank you for responding to the revisions requested at the meeting held on 23 October 2020 and the following documents were received:

- FMHS REC Application form and supporting documents version 1.0: 02.10.2020
- Revised Participant Information Sheet and Debrief form version 1.0: 30/11/2020

These have been reviewed and are satisfactory and the project is approved.

Approval is given on the understanding that:

1. The protocol agreed is followed and the Committee is informed of any changes using a notice of amendment form (please request a form).
2. The Chair is informed of any serious or unexpected event.
3. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely

Dr John Williams, Associate Professor in Anaesthesia and Pain Medicine
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

Appendix G: Participant information sheet

Study Title:

Exploring Attachment Styles and Mentalizing capacities in Revenge Pornography

PARTICIPANT INFORMATION SHEET

We would like to invite you to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. One of our team will go through the information sheet with you and answer any questions you have. Please take time to read this carefully and discuss it with others if you wish. Ask us anything that is not clear.

What is the purpose of the research?

The purpose of this study is to explore the different ways we interact and behave in romantic relationships (attachment styles) and the ability to understand our own or others feelings and how that effects the way we treat them (mentalizing capacities). At the present time, there is no research looking into attachment styles and mentalizing capacities in both revenge pornography perpetrators and victims. The study hopes to provide a better and more informed understanding of attachment styles and mentalizing in revenge pornography to inform theory, research and intervention.

Why have I been invited to take part?

The study invites anyone over the age of 18 and currently living in the United Kingdom; and has threatened to /or distributed private sexual images (sometimes referred to as 'nudes') or has been a victim of threat to or distribution of private sexual images. The study aims to recruit over 200 participants.

Do I have to take part?

Taking part is entirely voluntary. If you decide to take part you will be prompted to complete an online consent form by clicking next at the end of this page and before being taken to the start of the survey. However you are still free to withdraw at any time by clicking the Exit button/closing the browser.

1. What will happen to me if I take part?

If you choose to take part you will be provided with a unique code to keep and then asked to complete an online survey on the JISC Online Surveys platform. This begins with a demographic questionnaire (i.e. age, sex, occupation) followed by 5 different questionnaires. These should take you approximately 20 minutes to complete. After clicking the submit button you will be taken to a debrief form giving more information about the research topic and instructions on what to do if you wish to withdraw your data.

2. Are there any risks in taking part?

There are no risks anticipated in taking part in this study. It is possible that you may find the questions asked and/or information presented are upsetting or make you feel uncomfortable and we have provided details of where you can seek support in the Debrief form presented at the end

3. Are there any benefits in taking part?

There will be no direct benefit to you from taking part in this research but your contribution may help shed light in a limited research area.

4. What happens to the data provided?

You will be provided with a unique code in order to anonymise your responses or delete your data should you wish to do within a week of participating. Participants wishing to withdraw their data must contact researchers and provide their unique code (referred to as receipt number). All data will be anonymised and stored electronically. Data generated will be used for publications, however this will not be identifiable to you or any other participants. All data that could identify you or any

other participants will be removed. All data will be stored for a minimum of 7 years after publication or public release of the work of the research.

We would like your permission to use anonymised data in future studies, and to share our research data (e.g. in online databases) with other researchers in other Universities and organisations both inside and outside the European Union. This would be used for research in health and social care. Sharing research data is important to allow peer scrutiny, re-use (and therefore avoiding duplication of research) and to understand the bigger picture in particular areas of research. All personal information that could identify you will be removed or changed before information is shared with other researchers or results are made public. Data sharing in this way is usually anonymised (so that you could not be identified)

5. What happens if I change my mind after submitting the survey?

Even after you have submitted the completed questionnaires you can contact the researchers within a week to remove your data. You will need to quote your unique code (referred to as a receipt number). After a week, we will keep the anonymous research data that has been collected. It will be combined with data received from all participants and stored in a password protected database ready for analysis. At this point accessing, changing or moving your information become limited as we need to manage your information in specific ways to comply with certain laws and for the research to be reliable and accurate.

6. Who will know that I am taking part in this research?

No one will know you have taken part in this study because we will not ask for your name or any other personal ID during this questionnaire. Your IP address will not be visible to or stored by the research team because JISC online survey are the data processor (processing personal data on behalf of the University) JISC online surveys' data stores are backed up daily. Backups are stored securely in a JISC office and replicated to a data centre. After three months the backups are deleted and destroyed.

7. What will happen to your data?

When you have clicked the submit button at the end of the questionnaire, it will be uploaded into a password protected database with a code number. The research team will not be able to see who it is from. Your data (research data) will be stored in a password-protected folder sitting on a restricted access server at the University under the terms of its data protection policy. Data is kept for a minimum of 7 years.

This questionnaire is part of a doctoral research project and the answers received from all participants will be combined in a password protected database ready for analysis. The results will be written up as a thesis and may be used in academic publications and presentations. The overall anonymised data from this study may be shared for use in future research and teaching (with research ethics approval).

The only personal data we will receive is your e-mail if you contact us to ask further questions or need support. This will be received and handled separately from your completed questionnaire and it will not be possible to link the sets of data. Your e-mail address will only be kept as long as needed to resolve your query. It will then be deleted. For further information about how the university processes personal data please see: https://www.nottingham.ac.uk/utilities/privacy.aspx/

8. Who will have your data?

All The University of Nottingham is the data controller (legally responsible for data security) JISC online survey are the data processor (processing personal data on behalf of the University) and the Supervisor of this study (Dr Kathleen Green) is the data custodian (manages access to the data) and as such will determine how your data is used in the study. Your research and personal data will be used for the purposes of the research only. Research is a task that we perform in the public interest.

Responsible members of the University of Nottingham may be given access to data for monitoring and/or audit of the study to ensure it is being carried out correctly.

If you would like to discuss the research with someone beforehand (or if you have questions afterwards) please contact:

Ana Dias E-mail: Ana.Diasbritodasilva@nottingham.ac.uk
or if you have any concerns about any aspect of this study please contact the Research Supervisor: Dr Kathleen Green ,
Email kathleen.green@nottingham.ac.uk).

If you remain unhappy and wish to complain formally, you should then contact the FMHS Research Ethics Committee Administrator quoting ref no: FMHS 105-1020 E-mail: FMHS-ResearchEthics@nottingham.ac.uk

Appendix H: Copy of the items in the Experiences in Close Relationships questionnaire

QUESTION	POSSIBLE VALUES
I prefer not to show people close to me how I feel deep down.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I worry about being abandoned.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I am very comfortable being close to others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I worry a lot about my relationships.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
Just when people start to get close to me I find myself pulling away	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I worry that people won't care about me as much as I	1 = Disagree strongly

care about them.	2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I worry a fair amount about losing my relationships.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I get uncomfortable when people want to be very close.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I don't feel comfortable opening up to others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I often wish that my loved ones' feelings for me were as strong as my feelings for him/her	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I want to get close to others, but I keep pulling back.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly

I often want to merge completely with others, and this sometimes scares them away.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I am nervous when others get too close to me.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I worry about being alone.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I feel comfortable sharing my private thoughts and feelings with others I am close to	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
My desire to be very close sometimes scares people away.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I try to avoid getting too close to others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly

I need a lot of reassurance that I am loved by those close to me.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I find it relatively easy to get close to others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
Sometimes I feel that I force others to show more feeling, more commitment.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I find it difficult to allow myself to depend on others	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I do not often worry about being abandoned.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I prefer not to be too close to others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
If I can't get others close to me to show interest in me, I get upset or angry.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed

	5 = 6 = 7 = Agree strongly
I tell those close to me just about everything.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I find that others don't want to get as close as I would like.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I usually discuss my problems and concerns with those close to me	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
When I'm not involved in a relationship, I feel somewhat anxious and insecure.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I feel comfortable depending on others.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I get frustrated when those I am close to aren’t around me as much as I would like.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I don't mind asking romantic partners for comfort, advice, or help.	1 = Disagree strongly 2 =

	3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I get frustrated if those close to me are not available when I need them.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
It helps to turn to others in times of need.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
When those close to me disapprove of me, I feel really bad about myself.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I turn to others for many things, including comfort and reassurance.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly
I resent it when those I am close to spend time away from me.	1 = Disagree strongly 2 = 3 = 4 = Neutral/mixed 5 = 6 = 7 = Agree strongly

Appendix I: Copy of the items in the Reflective Functioning Questionnaire

Please work through the next 8 statements. For each statement, choose a number between 1 and 7 to say how much you disagree or agree with the statement, and write it beside the statement. Do not think too much about it – your initial responses are usually the best. Thank you.

Use the following scale from 1 to 7:

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

1. __ People's thoughts are a mystery to me **(original item 1)**

2. __ I don't always know why I do what I do **(original item 17)**

3. __ When I get angry I say things without really knowing why I am saying them **(original item 22)**

4. __ When I get angry I say things that I later regret **(original item 29)**

5. __ If I feel insecure I can behave in ways that put others' backs up **(original item 35)**

6. __ Sometimes I do things without really knowing why **(original item 36)**

7. __ I always know what I feel **(original item 8)**

8. __ Strong feelings often cloud my thinking **(original item 27)**