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Ignorance or intent? Motivations and predictive factors for the sending of unsolicited sexual images.

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DECLARATION OF ORIGINALITY

I hereby declare that this thesis consists entirely of my own work and no part of it has been previously submitted for assessment to the University of Kent, or any other institution. To the best of my knowledge and belief, all material from outside sources has been appropriately cited in-text and referenced in the bibliography.

ACKNOWLEDGEMENTS

They say no woman is an island and, just as Tennyson (1842) wrote, *I am a part of all that I have met*. This thesis is not only the result of personal achievement, but rather the product of many people's labour and an example of the positive power of human connection and collaboration.

I would like to thank my supervisor Dr Sarah Johns for first suggesting this project, her encouragement and the constructive feedback. I would also like to extend my gratitude to every member of the teaching and administrative staff at the School of Anthropology and Conservation, who have provided valuable assistance to me over the last four years, each in their own unique capacity. Specifically, I would like to thank Paula Ellis, Nicola Kerry-Yoxall, James Kloda, Danielle Rundle and Shelley Malekia for their administrative and pastoral support, as well as Dr Matthew Skinner and Dr Brandon Wheeler for contributing their valuable insight as part of my review panel. Thank you also to Campus Security for letting me back into the building on the night of my submission, when my key card suddenly stopped working.

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And this gray spirit yearning in desire

To follow knowledge like a sinking star,

Beyond the utmost bound of human thought. (Tennyson, 1842)

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KEY

A list of all abbreviations used in this thesis is presented below as a point of reference. Prior to using the abbreviation, the long form will be clarified in-text.

Table 0.1
Clarification of Abbreviations Used In-Text

Abbreviation	Long form
ATSN	Attitude(s) towards sending nudes
CFA	Confirmatory factor analysis
DDA	Digital dating abuse
FRA	European Union Agency for Fundamental Rights
HIT	Human Intelligence Task
KMO	Kaiser-Meyer-Olkin
NWS	Negative Word Score
PCA	Principal components analysis
PPG	Penile plethysmography
PWS	Positive Word Score
STMS	Short-term mating strategy
TFSV	Technology-facilitated sexual violence
UDP	Unsolicited dick pic
UN	Unsolicited nude
WEIRD	White, educated, industrialised, rich, democratic

As this project contains a multitude of internet-based terminology, frequently derived from slang, definitions are provided here to aid the reader. Where appropriate, these terms are also clarified further in-text.

Table 0.2
Clarification of Terminology Used In-Text

Term	Definition
Bait outs	A form of bullying practised by school-age children involving social media group chats and the exchange of nude images (Parcerisas, 2019).
Cyberflashing	Sexual images that are sent to non-consenting parties, frequently in close proximity and via features such as *AirDrop* (Milner & Donald, 2019).
Cyberstalking	A form of digital harassment that can involve utilising a victim's online profile to gather private information and use it to threaten and harass (Bocij, 2004).
Dick pic(s)	A, mostly self-taken, image of a penis (Salter, 2015).
Nudes	Self-taken sexual images of sexualised body parts, such as breasts, buttocks and genitals (Döring, 2014).
Revenge porn	Sexual images or film that have been publicised without consent, often in the context of a relationship ending on bad terms (Laird, 2013).

ABSTRACT

A shift in mating behaviours caused by the inception of the internet has enabled new forms of sexual communication, in particular the exchange of graphic images. There is a fundamental lack of empirical research conducted on the origins of and motives for self-taken sexual images, both solicited and unsolicited. The incentives for the sending of such images are unknown, as well as the prevalence of the behaviour in general. Within the purposes of this research project I established the demographic context of sending nude images, identified people's main intentions and consequences, as well as the underlying psychological differences of those who send unrequested sexual images. In order to do so, I created a predictive model for the sending of unsolicited nude images, designed and validated a new scale for measuring attitudes towards sending nudes and provided evidence for gender-based differences when it comes to intentions and perceptions around the sending of self-taken sexual images. This research project provides evidence to suggest the sending of unsolicited graphic images is predicted by psychopathy, self-rated mate value and an accepting attitude towards sending nudes in men, whereas in women it is predicted by narcissism and a liberal attitude towards sending nudes. These gender differences have unique implications, both in terms of their potential to cause harm and regarding their perception by recipients, and should therefore be treated distinctly by governmental and educational institutions.

1 INTRODUCTION

The advent of the internet has been accompanied by the potential for a momentous shift in human mating behaviour patterns. New forms of communication now permit the forming of connections without requiring physical presence or even proximity (Rosenfeld & Thomas, 2012). Partnerships can be sustained across the globe, to the extent that entire relationships can be established, experienced and ended without the involved parties ever making in-person contact. This relatively novel environment has opened up new avenues of sexual exploration by providing free and easy access to sexual health-related information (Suzuki & Calzo, 2004), online dating and a way to safely engage in sexual behaviour without the risks of sexually-transmitted infections (Ballester-Arnal et al. 2014) that exist when engaging in traditional forms of sexual contact.

While the internet has brought about many positive and enriching opportunities, it is simultaneously not without its downsides. Digital dating abuse (DDA) and technology-facilitated sexual violence (TFSV) have become a regular experience for many online users (Brown & Hegarty, 2018). The list of undesirable online behaviours, in regards to romance and sexuality, includes *revenge porn* (Laird & Toups, 2013), unsolicited *dick pics* (Salter, 2016), online sexual harassment, *cyberstalking* (Bocij, 2004, p. 7), *cyberflashing* (Milner & Donald, 2019), *bait outs* (Lowe, 2018) and many others. In this thesis, I will be focusing on the relatively new phenomenon of self-taken sexual images, otherwise known as *nudes* or *dick pics*. These images are most frequently taken on a smartphone camera, depicting the subject nude or semi-nude in a sexually suggestive way.

While it is assumed that the vast majority of nude images are sent and received consensually, there is very little data that identifies the percentage of specifically unsolicited nudes (UNs) sent to recipients without gaining prior permission (Klettke, Hallford & Mellor, 2014, p. 45). This data gap prevents the effective management and legislation of such images, in addition to limiting the scope of educational programmes. While there is limited information available in regards to the current prevalence of sending unsolicited sexual images, an EU-funded survey from 2014 provides insight into the broader phenomenon of TFSV. According to the European Union Agency for Fundamental Rights (FRA), online sexual harassment is a widespread phenomenon, with 4% of young women in the EU having experienced *cyberstalking* and 11% reporting the

receipt of unsolicited explicit communications (FRA, 2014, p. 28-29). Though these percentages may, at first glance, seem relatively low, this translates to millions of women in the EU suffering some form of digital sexual harassment in their lifetime. Gender, however, is not the only determinant of victimisation, as the chances of being subjected to unwanted sexual attention are considerably higher for younger women. In fact, the EU considers young women to be two to three times more at risk of sexual harassment on the internet than women over 40 (FRA, 2014, p. 30). Little is known, however, about the effects of TFSV on the victim's wellbeing. The behaviours have the potential to feel like an invasion of privacy to the victims (Hatuka & Toch, 2016), as most citizens, around 94% of adults in the UK, have access to digital devices in their private spaces (Henshaw, 2018). Feeling unsafe online, which, for all intents and purposes, can be classed as a public space, is not considered acceptable (Parliament. House of Commons, 2018) in an age where internet access is near universal and a requirement for many forms of employment-related and personal activities (West, 2011). Current solutions to tackle TFSV lack the appropriate nuance and understanding of gender-based violence, as most focus on limiting the victim's personal freedoms as a 'protective' measure (Vitis & Gilmour, 2017), rather than reprimanding the perpetrator. Common legal advice for victims of online sexual harassment includes the recommendation to stay off of social media to prevent further victimisation (Megarry, 2014). This, in essence, systematically excludes young women from participating in the online sphere and further empowers the perpetrators to expect no repercussions (Powell, Henry & Flynn, 2018, p. 311). This perpetuates the notion of male dominance over the public sphere and implies that women's participation in such spaces comes at an inevitable cost.

The price of merely existing as a female-identified person online can be immense. An example of this is a recent study on the effects of *revenge porn*, which is defined as the publication of someone's sexual images or videos against the subject's will, frequently in the context of a failed relationship. Due to the exhaustive list of negative consequences for *revenge porn* survivors, often caused by the publication of their personal data alongside the graphic images (Citron & Franks, 2014), being victimised in such a way can lead to significant mental health struggles, comparable even to those of rape victims (Bates, 2016). The receipt of unsolicited sexual images, however, is associated with reverse spatial implications. Insomuch as revenge porn forces the private into the public, the receipt of UNs operates by the public (i.e. a stranger) forcing itself into the privacy of

one's mobile device. Despite the fact that the pathways are reversed, both revenge porn and the receipt of UNs share a loss of spatial agency, i.e. the power to decide which experiences one reserves for the public or the private space. This sparks debate around whether the receipt of UNs can have similar effects on the mental wellbeing of recipients, as both experience feature disruption of one's personal boundaries. While this behaviour does not usually include public embarrassment of the recipient and has arguably little impact on the recipient's social environment, compared to victims of *revenge porn* (Stroud, 2014), the disruption of one's daily life through unwanted sexual attention may still pose a mental health risk. It is therefore important to investigate whether the sending of unsolicited nude images is as prevalent as public media suggest. Prior to studying the effects on recipients, it is crucial to establish a basic framework of the number of senders and recipients, as well as determining the causes of the sending.

As part of this project I hypothesise that the practice of exchanging personal sexual images is a common form of modern sexual behaviour and that a majority of those surveyed will have sent a nude image of themselves in their lifetime. In regards to consent, however, I hypothesise that men are more likely to send unsolicited nude images, whereas women are more likely to send solicited nude images. This research will help further the discussion on how to class unsolicited sexual images and determine their implications on a societal basis. There are a number of potential outcomes of this study. If the results identify UNs as a dangerous form of sexual harassment, they should be treated accordingly, both by legislative authorities and the platforms on which these images are sent most frequently. This may then serve to exert pressure on dating apps and social networking sites to put in place some measures to prevent unsolicited images and take action against those who send them, as well as to provide legal recourse for victims of the behaviour. If the results fail to establish any associations between the sending of UNs and harmful intentions, but instead prove them to be a harmless, if unpleasant, by-product of an increasingly digitalised social environment, this will move the focus of the discussion away from crime prevention and towards an emphasis on teaching digital literacy and online boundaries to adolescents. Lastly, if the data shows that the sending of unsolicited sexual images meets the characteristics of a successful short-term mating strategy (STMS), the implications of sending such images will need to take into account the evolutionary viewpoint.

In the course of this exploratory research project I set out to test gender differences in the sending and receiving of solicited, as well as unsolicited, nude images. I also investigated potential predictors of the sending of nude images, such as age, sexuality, mate value, app usage, personality traits and attitudes towards nudes. In order to address the research question, a new scale was developed to measure attitudes towards the sending of nude images (see chapter 2).

1.1 BACKGROUND

1.1.1 Research Motivation

Public discourse surrounding modern dating has been largely centred on the use of technology in romance and its associated risks (Hayes & Dragiewicz, 2018; Bulman, 2016; Gray, 2018). In academic contexts, however, the lack of published research on the relatively recent shift in human mating strategies has been noted by a number of authors (e.g. March & Wagstaff, 2017; Hayes & Dragiewicz, 2018; Mandau, 2019). Following the global phenomenon of #*MeToo* in 2017 and 2018, it has become an urgent priority for many governing bodies to identify and address the causes of gender inequality holistically. As is the case with most systemic issues, there can be no single cause and solution for discrimination on the basis of gender, since it is formed of a complex web of historical, cultural and personal prejudices, which in their sum have numerous real-life consequences for female-born individuals. These consequences rank from the seemingly banal, such as colour-coding 'women's products' in pink (Stevens & Shanahan, 2017) to the downright deadly, like providing unsuitable safety equipment for female workers (Criado-Perez, 2019). Though it may not be possible, or even prudent, to address all structural inequalities within a single project, it is worthwhile to make an attempt at decreasing the gap in research on matters that mostly concern women (Criado-Perez, 2019), one of which is the issue of existing in public spaces safely. Due to the long-standing precedence of men dominating public social spaces (Massey, 2013, p.191), women experience a number of inherent differences when navigating social spaces. This includes a general sense of danger, vulnerability and potential victimisation (Pain, 1991). These concerns have been shown to not be limited to physical spaces, but rather extend to the online sphere, as well (Filipovic, 2007; Megarry, 2014). This increase of the influence of patriarchal structures on the lived experiences of people today has provoked the impetus to identify some of the causes of women's sense of feeling unsafe online, so

that these causes may be addressed in due course. Due to the unresolved and seemingly inherent structural inequalities of the internet (Vitis & Gilmour, 2016) and the ongoing public discourse around female sexual victimisation online (Jane, 2016), this project will focus on decreasing the data gap in TFSV research, by means of exploring the prevalence and underlying predictors for sending unsolicited sexual images. In this introductory chapter I will present the specific motivations for conducting this research project.

1.1.1.1 Technology and Human Mating Strategies

Human mating strategies change and adapt considerably alongside other cultural innovations (Apostolou, 2013). The development of new technological advancements is generally accompanied by a shift in human mating behaviours, access to mates and sexual behaviour (Slater, 2013). Just as national postal services and telephones fundamentally altered communication between partners, so did the internet (Slater, 2013). No other technology permits the same real-time opportunities of interaction, while eliminating any barriers of distance, class or affluence for citizens of developed nations with broad internet penetration. This development has unquestionably altered the way we love – and mate. Prior to the internet, most romantic ties were contingent upon chance encounters in a shared physical space (Gamble, 1982, p. 100). Gamble posits that prior to industrialisation, one's mating pool was determined by a hexagonal structure that directly influenced mating opportunities (Gamble, 1982). Even in the more recent, industrialised past, however, people were still limited by their social mobility and connections. While there were some exceptions to this, such as matchmaking advertisements in local newspapers (Cocks, 2009), most people's dating lives, sexual exploits and marriage prospects were geographically constrained to the places they would visit in person (Gamble, 1982). These constraints are far from arbitrary, as the path to attraction has been shaped by physical proximity.

This is evidenced by the fact that human beings utilise a number of sensory cues to determine mate compatibility. Sight is generally used to gauge facial symmetry and to detect any visible signs of ill health. These can affect physiological attractiveness (Fan et al., 2012; Perrett et al., 1999), but they can also be important indicators of a person's genetic makeup and whether or not their immune system is functioning adequately (Thornhill et al., 2003). Although modern dating places considerable value on physical features, speech and vocal patterns are also important factors in establishing romantic ties. Lower voices in men are shown to increase perceptions of desirability in women and

dominance in fellow men (Hodges-Simeon et al., 2010). Research also indicates that female voices, on the other hand, can provide fertility cues. Evidence suggests that women's voices are rated as more attractive by men during or around ovulation. It is not clear, however, in which direction the fundamental frequency changes during ovulation, since there is evidence that both a raising (Bryant & Haselton, 2009) and a lowering of pitch (Karthikeyan & Locke, 2015) increase attractiveness ratings during a woman's fertile phase. Despite the long-held belief that human females do not display visible signs of fertility (Burley, 1979), there is considerable research to indicate that women give off hormonal cues to signal ovulation. If a woman has a high chance of being fertile she is perceived by males to have a more attractive scent (Thornhill et al., 2003). In modern contexts the influence of fertility on attractiveness has been shown to affect the earning potential of exotic dancers (Miller, Tybur & Jordan, 2007). Those who were not using a hormonal form of birth control experienced drastic peaks and dips over the course of their cycle, with the highest earnings occurring around the time of ovulation. The scent of members of the opposite sex is used by humans to determine a good match. Research suggests that attractive body odour may indicate that a person's major histocompatibility complex genes are different from those of the other person (Thornhill et al., 2003), which can be an important factor in reproductive mate choice. In summary, the human body's multisensory approach to mate selection is an important process in the evolutionary context, as it ensures a high level of genetic compatibility. This is a crucial component in long-term mating strategies, which result in the production of offspring.

In the online sphere, however, where many selection processes involve still photographic images and most interactions occur in writing, the intrinsic abilities of the human body to sense compatibility are, by default, relatively constrained (Bridges, 2012). This inhibits the body's initial screening process, which theoretically has the potential to result in a person forming emotional attachments or feeling sexual attraction toward persons they might not have otherwise felt attracted to (Bridges, 2012). Despite the reduced opportunities for instinctive screening processes, the internet has been transformed into a new kind of dating marketplace, providing many mate-selection benefits for its users. The absence of geographical boundaries and abundance of social media platforms, dating websites, forums and search functions gives people access to a much wider mating pool (Smith & Duggan, 2013). Fine-tuned search parameters allow the user to find potential partners with whom they share a multitude of commonalities (Slater, 2013). While this

increased access to potential matches is considered a clear benefit of the online world by many (McKenna, 2007), others report that the unlimited influx of potential partners causes an uncomfortable sense of information overload (D'Angelo & Toma, 2017) and a transformation of dating from the search for a compatible mate into a digital game with no consequences (Homnack, 2015). Despite these concerns of a trivialisation of mate selection, a number of positive developments in terms of sexual wellbeing can be attributed to the worldwide web.

Anonymity, for example, is a key component of the digital revolution (Palme & Berglund, 2002). The internet has allowed for the free expression of anyone's ideas and desires, regardless of how societally 'abnormal' they may be. This has enabled many trans and gender non-conforming people, as well as anyone falling under the LGBTQ+ or kink umbrella to feel validated in their identity and to enjoy a sense of community that has traditionally been lacking in real-world settings (Hanckel & Morris, 2014). The potential for anonymity has also enabled people to research information about their sexual health, which they may not initially wish to discuss with a primary care provider (Berger, Wagner & Baker, 2005). In a similar vein, the internet has provided a rich source of sexual education for people who may not otherwise be able to access this kind of information (Simon & Daneback, 2013). Access to accurate, LGBTQ+ friendly and inclusive sex education is rare in the context of traditional school provisions (Rayside, 2014). Although the quality of sex education curricula varies from country to country, very few students report feeling adequately prepared based on their teaching alone (Suzuki & Calzo, 2004). While this is a considerable improvement compared to, for example, the lack of comprehensive sex education provided in many US states (Jeffries et al., 2010) or the prohibition of sexual education in Saudi Arabia (Alquaiz, Almuneef & Minhas, 2012), the absence of fact-checking technologies can also put users at risk of consuming and sharing misinformation regarding their sexual health.

Beyond providing mere information about sexuality and personal wellbeing, the internet has even played a key role in altering the definition of sexual activity itself. While previously sex was limited to physical interactions, phone calls or letters, the internet has added a number of options to the spectrum of sexual activity. The online distribution of free pornographic material, live video performances of sex workers and premium subscriptions to explicit social media accounts have created a digital marketplace for sex work. Even so, this has been impacted considerably by the introduction of new legislation

in the US (i.e. SESTA/FOSTA), which holds website owners accountable for the content shared by others (Hagen, 2018). This law was created under the guise of preventing sex trafficking, but has subsequently led to a ban of all promotions of paid sexual services, which mainly affects the livelihood and safety of consenting sex workers. Beyond the impact of technology on paid sex, the personal realm of sexual exploration has also been broadened by the development of webcam technology, as it permits visual interaction in real time, without requiring physical presence. The most common of digital sexual activities, however, is sexting.

The sharing of sexually explicit texts or images has risen considerably in popularity since the invention of the smartphone, as this was accompanied by an introduction of mobile internet technology and a lowering of prices for SMS and MMS services (Andrew, 2018). In a consensual context, sexting permits sexual activity regardless of location and allows for sexual exploration and communication without the risks of sexually transmitted infections and injury associated with physical contact. Around 30-45% of adults (Döring, 2014) and 19% of teenagers (Cox Communications, 2009) engage in sexting behaviours. While there is limited data on the subject, the available information suggests that sexting has become a normal part of modern sexuality. As with any new cultural development, however, there are many opportunities for misuse. As previously stated, a large number of individuals report receiving sexually explicit text messages or images that they did not ask or want to receive (Salter, 2016). Additionally, the sending of images or videos of one's nude or semi-nude body can lead to the publication of these images by a former intimate partner (Stroud, 2014). Anthropological research on some of these novel forms of sexual violence has been somewhat scarce. The discourse on *cyberstalking*, receiving unwanted sexual images and *revenge porn* has to date largely been analysed through a feminist lens. Authors such as Thompson (2018), Vitis & Gilmour (2016) and others highlight the patriarchal and often misogynistic gender dynamics, which enable online sexual harassment. For example, Vitis & Gilmour (2016) hypothesise that the male domination of public internet spaces, causes women to be systematically harassed and shamed, while there are few cases of sexual harassment of men. While the existing body of feminist research is of great importance and value, there is a strong case for accompanying these works with additional empirical research to provide a full picture and enable nuanced debate. In order to provide a comprehensive picture of the discourse

around unsolicited sexual images, it is crucial to not only investigate existing research, but, firstly, consider how the subject is dealt with by the general public.

1.1.1.2 Public Perception

Social sciences research is, by definition, guided by cultural and social developments and phenomena. In this specific case, a drive to investigate the motivations for the sending of nude images was born from a near-constant influx of newspaper articles speculating precisely that, with very few equivalents on the side of academia. There has been an unquestionable desire in the general public to rationalise and make sense of the phenomenon of unsolicited *dick pics* (UDPs), in order to move toward solutions to tackle the issue of consent raised by such images (Garland, 2018; Ankel, 2018). The potential explanations for UDP sending are manifold. Some journalists hypothesise that there may be few men sending UDPs to a large number of recipients (Garland, 2018) or that perhaps men misinterpret their own desires to be universally applicable across genders (Besinger, 2016). But, despite these predictions, academia has been slow to take up the task of investigating the behaviour.

The term *dick pic* has become the only used term for, mainly self-taken, images of a penis. This in itself speaks for the influence of internet and youth slang on the development of new terminology. In addition to influencing the evolution of language, much of today's social commentary can be found on social media websites, apps and forums. The wide accessibility of these platforms enables the easy sharing of ideas with likeminded folk. In fact, relatability appears to motivate a significant proportion of online content nowadays. Finding common ground in shared experiences offers everything from light entertainment to cathartic processing to consumers of such content. This has given rise to a new style of guerrilla activism in the form of memes. Memes – images with an overlay of text, which are often borrowed from pop culture references – are designed, first and foremost, to entertain and, at the same time, allow for critical engagement with the subject they comment on (Davison, 2012). Even though many creators and collectors of such memes never intend to move beyond the stage of entertainment, in some cases the curation of these images can offer a platform for important social discourse. One of these platforms is *Bye Felipe* (Tweten, 2019a). The name is a play on the phrase 'Bye Felicia', which was first used by actor and musician Ice Cube in the 1995 film *Friday* and has since become a staple colloquialism in popular culture, indicating dismissal and nonchalant disapproval (Harris & Hubbard, 2015). Established by author and comedian Alexandra Tweten in

2014, *Bye Felipe* is an Instagram account and social media phenomenon where Tweten shares an innumerable collection of screenshots, either submitted to her or taken by herself (Tweten, 2019b; see figure 1), alongside a plethora of feminist memes (see figure 2). The screenshots of text conversations feature some of the most egregious forms of harassment, verbal abuse, threats and unsolicited sexual images (see figure 1). Most frequently, the abuse is perpetrated by a man and directed at a woman. A common scenario involves a man expressing sexual interest in the recipient of the message. Upon polite rejection, the man's response is to describe the former object of his desire as fat, ugly and/or entirely undesirable (Tweten, 2018, p. 41).
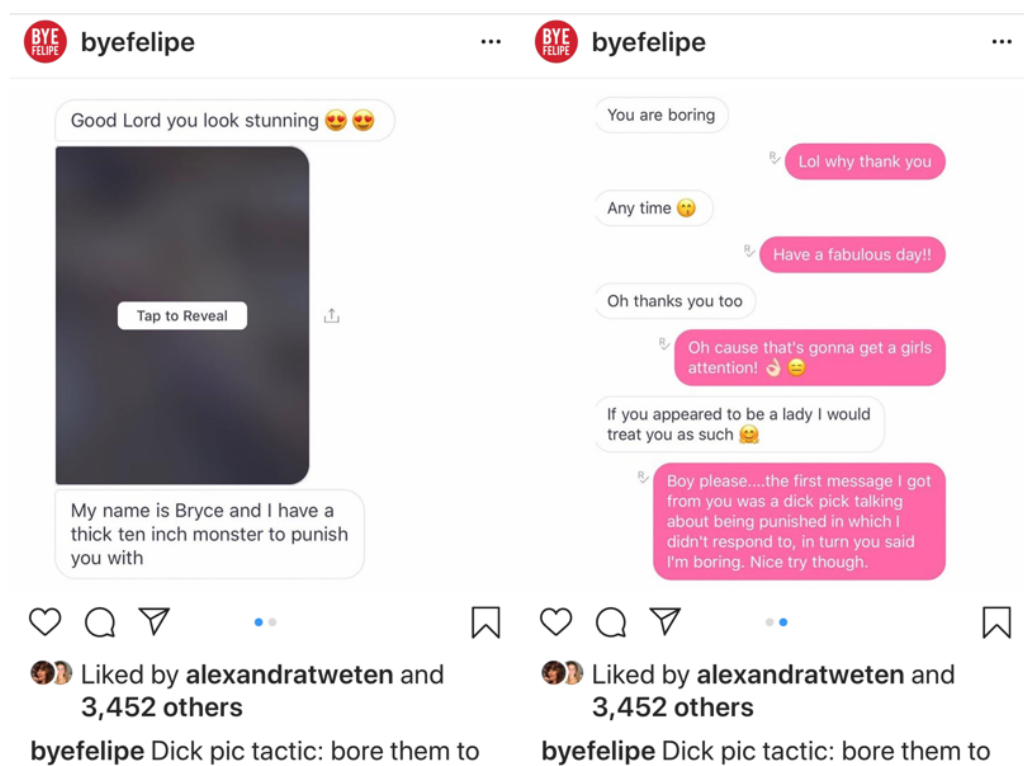
Figure 1. Screenshots of example submissions to Tweten's *Bye Felipe* Instagram account.

This vast collection of evidence, to support the claim that online sexual harassment is a serious issue, is only a small excerpt of the submissions Tweten receives daily, which further highlights the endemic abuse and harassment of female-identified people on the internet. Following the success of her Instagram account, Tweten published a book of the same name last August (Tweten, 2018). It further details the behavioural patterns Tweten has identified in the years of her curating *Bye Felipe*.
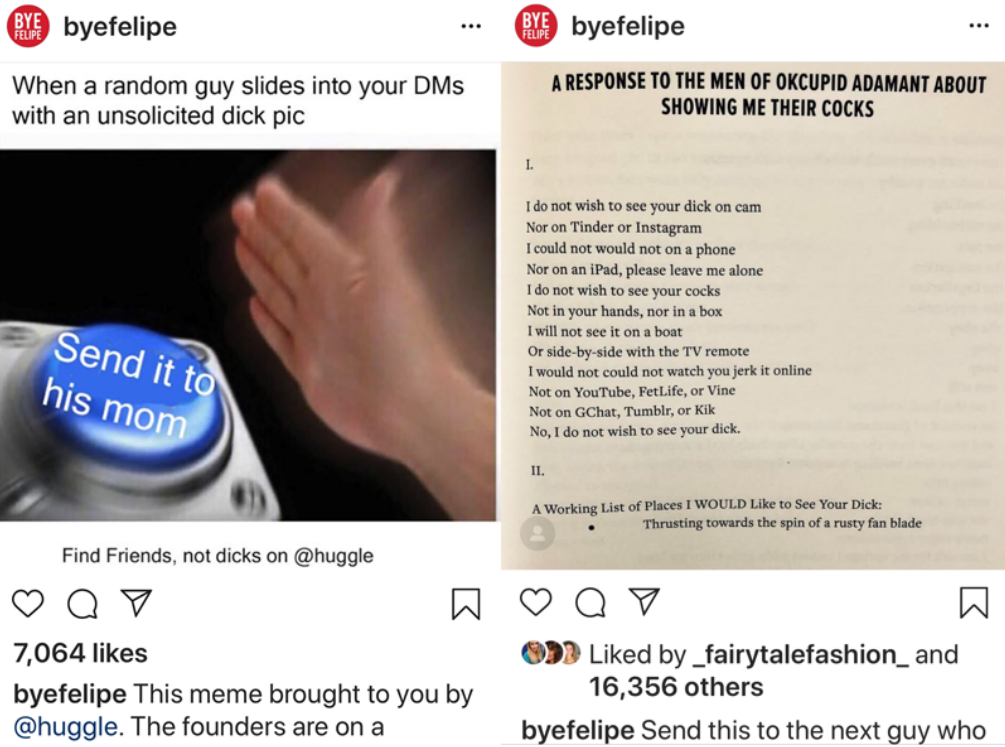
Figure 2. Screenshots of memes posted to Tweten's *Bye Felipe* Instagram Account.

Each chapter discusses a specific character type that can be found on online dating sites and how to respond to their respective styles of harassment. In her book, Tweten references a recent YouGov survey on UDPs, which states that nearly half of millennial women have received a *dick pic* (YouGov, 2017). This survey, however, is the only quantitative research on *dick pics* referenced in the book, while the remaining data is qualitative in nature and mostly sourced from submissions of text conversations sent to her. The scarcity of academic research available to Tweten constrained her hypotheses insofar as that she had to, again, rely on speculation rather than fact when attempting to make sense of why a man might send a UDP (see figure 3). The existence of the book highlights the public interest in unsolicited graphic images and presents another piece of evidence that research is needed on how to combat this systemic issue.

THE DICK PIC SENDER STARTER PACK

YOU KNOW HE'S GONNA SEND A DICK PIC IF YOU SEE HIM:

- Dressed in silky athletic shorts
- Pictured in a messy room that you can see in the background of his photos
- Wearing a sports baseball cap
- Wearing wraparound sunglasses
- Having bad facial hair
- Sporting the worst and most tacky tribal tattoos

xxxxxxxxxxxxxxxxxxxx **178** xxxxxxxxxxxxxxxxxxxxx
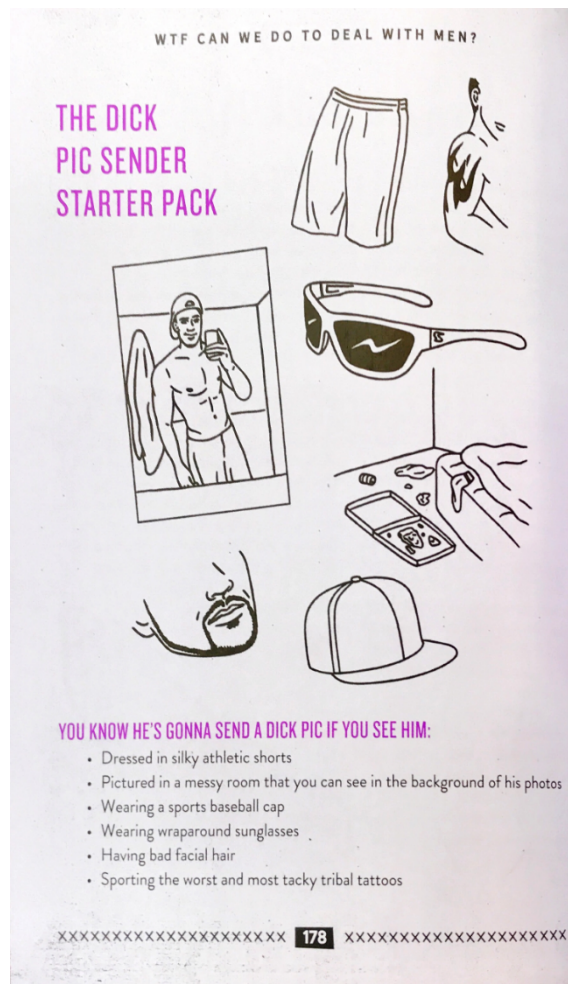
Figure 3. Excerpt on senders of *dick pics* from Tweten's *Bye Felipe* (2018)

The role that online dating applications play in moderating their spaces to prevent sexual harassment, both online and offline, varies greatly from app to app. Popular online dating application *Tinder,* which is known for pioneering the concept of an image-swiping mate selection process in 2012 (David & Cambre, 2016), has been criticised in the past for their seeming lack of initiative in assuming a more active role to ensure the safety of their users (Ducklin, 2018). Although it is a widely known fact that *Tinder* collects a disconcerting amount of data on their users, in part due to their use of geolocating technology and the option to connect one's profile to other social media accounts (Duportail, 2017), there is no evidence to suggest that this database is utilised for protection from (cyber)stalking, harassment or other forms of TFSV (Ducklin, 2018). That this concern for individuals' safety is not unfounded is most poignantly highlighted by the case of Dr Angela Jay. The young Australian doctor was repeatedly stalked by a man she met on *Tinder*, which culminated in her getting stabbed multiple times and the attacker losing his life at a stand-off with the police (Bali, 2018). Whilst this is mere speculation, it serves to consider how different the outcome could have been if *Tinder* offered a straightforward reporting policy, which, in conjunction with the police, worked

to investigate any serious concerns raised. This should also include providing training that is mindful of technological changes to police officers (O'Shea et al. 2019). Although these severe crimes do occur at an alarming rate, the most commonly discussed instances of TFSV inlcude the receipt of an unwanted *dick pic* (Hayes & Dragiewicz, 2018). In an attempt to prevent this in the context of online dating, some dating apps do not offer image-sending capacities via their platforms. *Tinder* produced a podcast episode entitled 'Dick pics' in 2016, in which they clarify there is no way to send private images through the messaging function of the app (Marie, 2016). In late 2014 *Tinder* reportedly trialled a feature enabling the sharing of images, so-called 'Moments', with all of the user's matches. This feature, however, was removed again only a year later (Crook, 2015). As a response to growing concerns about UDPs, new applications such as *Huggle* and *Plum* have been founded with the express purpose of making online dating safe and enjoyable for everyone, regardless of their gender (Chatel, 2018). Meanwhile, established dating app *Bumble* introduced an image filter using artificial intelligence to identify dick pics in early 2019, which then allows the recipient to decide whether or not they want to view the photo (Smith, 2019). This demand for well-moderated platforms with strict harassment policies speaks to the severity of the issue and a desire for change. Despite the high volume of media produced on the subject of UDPs, there is still little information available on the motivations for sending such images. As a result, many law- and policy-makers are unable to provide the freedom from harassment their constituents demand. In the following section, I will be investigating how the relationship between politics and the internet affects the development of policies tackling the phenomenon of sexting and unsolicited nudes.

1.1.1.3   Sexual Harassment and Political Pressures

The debate around classifying the spatial properties of the internet is an ongoing one. Both social codes of conduct, as well as legislative structure depend on how the online space is defined. If the internet is to be conceptualised as either a public or a private space, this may impact how we approach government and control of the space. In reality, however, the online world seems to mirror the offline world, by offering up a mixture of public and private spaces, with different rules governing each (Burkell et al., 2014). This creates a number of legislative obstacles for governments, as they seek to ensure the safety of their citizens in all aspects of modern life, while navigating the legal challenges of a multinational, but simultaneously borderless, space. In the context of sexual

harassment on specific online platforms, the legislative power of one country may be limited if the company hosting the platform is located in another (Goldsmith, 2007). Nevertheless, despite the complicating factors of governing multinational territory, many country's governments have begun to recognise their responsibility in preventing harm done to their citizens online. As part of the UK government's social obligation, they released a parliamentary paper entitled '*Sexual harassment of women and girls in public places*' (Parliament. House of Commons, 2018). The paper details the current state of affairs in regards to public safety for women, as well as the government's shortcomings and recommendations for improvement. In chapter 2, paragraph 47, the paper acknowledges the impact of technological advancements on new forms of sexual harassment and the inadequacy of current law, which was mostly written prior to arrival of the internet (Parliament. House of Commons, 2018). At its' core, the report identifies a need for the improvement of women's sense of safety in the public sphere. It highlights a number of governing bodies' failure to demonstrate sufficient progress on the matter and emphasises the urgency with which sexual harassment in public spaces is to be tackled. Most importantly, the publication recognises the internet's part in creating hostile, unsafe public spaces for female identified persons:

> *Online spaces are public places where sexual harassment of women and girls is rife. This has damaging effects on their health, and their ability to have their voices heard in public. The internet safety strategy and social media code of practice should include specific, robust and proportionate action to prevent and address sexual harassment and abuse of women and girls online. There must be clear consequences for those organisations that fail to effectively address sexual harassment—consequences that hurt their bottom line.* (Parliament. House of Commons, 2018)

When it comes to sexual activity, most people would consider it a private aspect of a person's life, to be explored outside of public spaces. Sexual harassment, on the other hand, mainly takes place in the public domain, outside of appropriate contexts (Salter, 2015). By making the private public, not only does a harasser violate social rules, they also overstep the victim's personal boundaries and take away their right to keep their sexuality separated from the public domain. The paper's recognition of this is of considerable value in providing a basis of argument in favour of updated and improved legislation, which covers digital media and online technologies sufficiently. Even though

sexual harassment is technically unlawful, outdated and irrelevant phrasing can prevent adequate legal action being taken in circumstances of <u>online</u> sexual harassment. In fact, the paper directly recommends drafting a new law in such a way that 'image-based sexual abuse … should be a sexual offence based on the victim's lack of consent and not on perpetrator motivation' (Parliament. House of Commons, 2018, para. 52). A review of the paper's findings was due in February 2019, which further suggests that attempts to reduce the sexual harassment women and girls regularly face are being made. However, the UK Government does not currently collect any data on public instances of sexual violence (Parliament. House of Commons, 2018, para. 61). Parliament and civil services are, therefore, entirely dependent on data from external sources, in order to justify actions to be taken. This further highlights the importance of establishing a continuously adaptable theoretical framework of the origins and implications of online sexual harassment based on empirical, quantifiable data. The release of the paper was followed by reports in *The Guardian* of a number of MPs calling for criminalisation of UNs, stating that, despite the lack of data, the motivation of the perpetrator is not relevant, so long as the recipient has not been able to consent to seeing the image (Marsh, 2018). The article also emphasised again how the state of current legislature does not reflect people's lived experience in the digital age. Increasing safety in public spaces for women and girls is not only a priority of the government, it is the collective responsibility of the general public to listen to and provide support for victims, as well as call out and denounce these behaviours on a peer-to-peer level. This is being exemplified by the previously mentioned social media campaigns and the #MeToo movement. Furthermore, website hosts need to utilise their power to find and reprimand perpetrators of online sexual violence through lifetime bans of a harasser's IP address, in order to prevent the creation of new accounts under different names. Where legislation may be slow to take effect, research projects such as this have the ability to empower activists and lobbyists with empirical data they can use to strengthen their argument.

The state of academic research on technology-facilitated sexual violence has been described as 'extremely sparse' (Henry & Powell, 2016), thereby limiting the theoretical framework upon which this project can build. According to a 2017 YouGov report, 46% of women reported receiving a *dick pic* and 41% claim to have received an unsolicited sexual image (YouGov, 2017). The limited research that is currently available suggests that women are disproportionately the victims of TFSV (Citron, 2009; Henry & Powell

2016), which characterises the matter as a 'women's problem'. There is much precedence to suggest that any issue, be that social, physical or legal, that mainly affects women, is regarded as less urgent and less serious (Criado-Perez, 2019). This may account for the delay in research conducted on unsolicited sexual images, as women are considered the main recipients of such images. Feminist critiques of women's responses to the onslaught of harassment that many of them receive, regularly formed, until recently, the bulk of peer-reviewed literature. Among them are Vitis & Gilmour (2016), who analyse Anna Gensler's *Instagranniepants*, an art project intended to subvert traditional perpetrator-victim power dynamics, by drawing caricatures of the naked bodies of men who send Gensler inappropriate and harassing messages, and Thompson (2018) dissects the work of Alexandra Tweten on her Instagram account *Bye Felipe*, by conducting qualitative analysis of the content. The absence of quantitative methods does not invalidate Thompson's argument, it does, however, limit its scope for replication and comparative statistical analysis.

Based on the popularity of social media campaigns, discussion in parliament and a steady increase in academic research on the subject, the number of women being exposed to penises they did not ask to see is portrayed as an everyday experience for many women online. This supports the argument that women are experiencing a desensitisation to penis pictures and that the convenience of modern media is enabling men to perpetrate certain behaviours more easily. In the late 1980s, 32% of women reported experiencing indecent exposure (Cox 1988, p. 230), which reflects a similar proportion of the sample population as those who reported receiving a UDP in 2017 (YouGov, 2017). There is an ongoing debate around whether indecent exposure and the sending of UDPs can be compared as equal (Thompson, 2016), which can, to a large extent, be attributed to the lack of data on the perpetrator's intentions when sending unsolicited dick pics. Although there are calls to criminalise UDP sending, regardless of the sender's intentions (Marsh, 2018), and thereby placing it on the same level as 'real-world' flashing (Thompson, 2016), this law has not yet been implemented. By establishing a profile of a typical sender of unsolicited nudes this can be compared to traits typically found in exhibitionists and further aid the case for legal action. A comparison of this kind may inform legislation and treatment of online sexual offenders. Alongside the growing movement to create real legal consequences for perpetrators of TFSV, preventative measures targeted at adolescents are being discussed as a viable alternative.

In anticipation of the introduction of a new Sex Education curriculum in 2020 with mandatory participation, there is considerable pressure on the UK government to succeed and to provide evidence that their programme can make a positive difference. The curriculum is said to include, for the first time, age appropriate discussions of sexting, consent and digital media. While the guidance states that pupils should be informed of the risks involved in the sharing of 'material … that they would not want shared further' (Department for Education, 2019), it does not further mandate how exactly teaching staff should tackle the topics of sexting, digital media and sexual harassment. This leaves some room for teachers to interpret the teaching goals as they see fit. There is an inherent risk with any discussion of sexting to follow a US-style abstinence-only pathway, due to the societally ingrained discomfort many feel when discussing adolescent sexual behaviours (Wilson et al. 2010). Avoiding open conversations around appropriate and consensual sexual behaviours will only encourage uninformed experimentation and a continued cycle of inappropriate requests, peer pressure and harassment. Evidence suggests a great reduction of harm when pupils are taught accurate, evidence-based sex education (Kohler, Manhart & Lafferty, 2008). To date, however, these studies are mainly based on 'offline' sexual behaviours and fail to measure the impact of technology-facilitated sexual exploration on the psyche of a teenager (Temple et al., 2014). 14% of 13-17 year-old Europeans claim to have sent a nude image to their partner (Project deSHAME, 2017). Taking into account that the behaviour constitutes distributing child pornography in persons under the age of 18 and is therefore illegal, this percentage is reasonably high. These statistics highlight the importance of introducing preventative educational measures, which serve to teach children the importance of enthusiastic consent and safe use of modern technology. Certain kinds of sexual harassment, such as *bait-outs[1]*, <u>only</u> occur in teenagers and are virtually unknown to older populations. Due to the lack of research conducted on the subject, there is a high risk of basing educational content on social perceptions and 'common sense', rather than on empirical data. The new curriculum presents a real chance to provide older children and teenagers with the tools to safeguard themselves against misuse of the online sphere and to conduct themselves appropriately. Carrying out this research prior to the new curriculum coming into effect

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[1] A new form of cyberbullying practiced mainly by school-age children that involves the creation of 'exclusive' group chats, where nude images of peers are shared. To gain access to the group, individuals are required to submit a nude image or relevant gossip. These nude images are then frequently used to bully the subject pictured (Parcerisas, 2019).

in 2020 is therefore conveniently timed, as this may ensure that teaching staff are provided with accurate and timely information to add to the sparse repository of quantitative research on online sexuality.

Figure 4. Advertising campaign by Swiss youth organisation ProJuventute, aiming to raise awareness of teen sexting (ProJuventute, 2013).

As suggested previously, the lack of academic research regarding modern technology-facilitated sexual behaviours has the potential to be one factor in the delay of updating outdated laws that do not reflect modern day society in a just and fair fashion. An example of this is the recent case of a female teenager who was charged with creating and distributing child pornography in Maryland, US, after sending a video of herself performing fellatio on a man to her friends (Justice Getty, 2019). As the video was consensually taken and shared and the depicted act itself was not a crime, due to the defendant being over the age of consent at the time of filming, there has been vocal criticism of the judge's decision to sentence her to electronic monitoring and anger management classes (Bekiempis, 2019). The judge himself acknowledged the law's failure to adequately reflect changes in adolescent sexuality caused by digitalisation, but saw no grounds to dismiss the case. This is a prime example of the legal constraints when interpreting laws that feature outdated phrasing. Meanwhile, a positive development in

law-making has come out of Oregon, US in June 2019. House Bill 2393 updated existing *revenge porn* laws to reflect the fact that the non-consensual sharing of others' nude images occurs on a variety of platforms (Lehman, 2019). The previous law only criminalised the sharing of such images on 'websites', which provided a significant loophole for those who spread *revenge porn* via other means, such as email servers or smartphone applications (Lehman, 2019).

1.1.2 State of Research

There is a dearth of scientific literature on the subject of sexting in general and self-taken sexual images specifically. To date, little empirical research on the motivations of senders of graphic images has been published. Despite this relative lack of research, there has been a recent influx of published literature on gender-based sexual violence. Only since 2018 has there been some improvement of research volume (Mandau, 2019; Oswald et al., 2019). Much of the current sexting research is focused on the phenomenon of *revenge porn*, i.e. the publication of intimate photos or videos beyond the intended audience and without the consent of the sender (Garcia et al., 2016; Bates, 2016; McGlynn et al., 2017). Despite this high level of interest in one form of image-based sexual abuse, the same attention is not being granted to the sending and receipt of unwanted graphic images. Prior to investigating the existing research on self-taken sexual images, it is crucial to distinguish between the three most common subjects of analysis: nude images, unsolicited nude images and unsolicited dick pics. As the three types are taken and sent with different motives and in different social contexts, it is important not to conflate them. Nude images, sent in a *sexting* context are considered a widely accepted modern form of sexual expression. Due to academia's focus on more aberrant online behaviours, such as online sexual harassment and sexting among adolescents, there is little research available on just how socially acceptable the exchange of nude images is. Prevalence rates for the sending of nudes among adults range from 30-54%, according to Döring (2014), which does not, however, explain societal attitudes towards nude images. Unsolicited nudes in general are perhaps the least studied dimension of graphic image exchange. Due to the media focus on *dick pics*, there has been virtually no exploration of the possibility that people who do not possess a penis may also send UNs. An example of the reduction of unsolicited nudes to *dick pics* is a recent study investigating the motivations for 'photographic exhibitionism'. Although in theory this is not a gendered term, in it the authors equate the terms 'genital pictures' and '*dick pics*', thereby entirely ignoring the

existence of genital images of vulvas, which have been named in previous research (Salter, 2016).

Non-academically, there are some publications aiming to identify the causes of sending unsolicited *dick pics*, such as the previously mentioned book *Bye Felipe* (Tweten, 2019) and news articles such as '*Why Men Send Pics of Their Junk*' (Ley, 2016) and '*Why People Send Dick Pics – And Why They Need to Stop*' (Merbruja, 2016). Despite their arguable lack of academic merit, they add meaningful insight and offer different viewpoints to the matter. While their arguments are largely common-sense, rather than evidence based, these publications can act as a starting point for academic researchers. Ley's article also identifies the shortcomings of research on the subject, highlighting a demand for quantitative data to explain the motivations of *dick pic* senders. Academically, the uptake has been slow to investigate the motivations of sending UDPs.

1.1.2.1 The Appeal of Graphic Visual Images

Humans are an unquestionably visual species when it comes to expressing their sexuality. From earliest Venus figurines 35000 BCE (Conard, 2009) to *The Great Wall of Vagina* (McCartner, 2011), the human naked body presents a constant source of inspiration and titillation to onlookers. Beyond the aesthetic aspects, nudity may convey a number of important pieces of information required for mate selection. A glance at the body in its entirety can give off important clues regarding a person's overall wellbeing, access to food and personal hygiene, in addition to physical traits which may indicate a Zahavian handicap and, consequently, a highly functional immune system and good genetic variation (Zahavi, 1975). Focusing entirely on the primary and secondary sex characteristics may aid in sexual selection, as they are widely thought to convey cues of age, fertility and general wellbeing (Short, 1981). While a visual inspection of the genital area cannot provide a comprehensive analysis of the person's health, a great number of contagious infections manifest themselves symptomatically. Warts, pustules and other abnormalities of the skin can be a helpful initial warning sign for potential mates. Additionally, research suggests a relationship between larger penis size and perceived attractiveness to females (Mautz et al., 2013). It is worthy of note, however, that the perceived attractiveness of a penis was found to be dependent on the person's stature and that a larger penis did not increase the attractiveness of a man with low shoulder-to-hip ratio (Mautz et al., 2013). This may suggest that graphic images of a penis alone are frequently perceived as unattractive due to the absence of context required to gauge

attraction. Nevertheless, there is still considerable evidence that primary and secondary sex characteristics provide useful information to potential mates.

Homo sapiens, however, are far from the only primate species that displays an attraction to nude images. For example, studies on *Macaca mulatta* (rhesus macaques) show attraction to graphic images of conspecifics, to the point where valuable commodities are traded off in exchange for access to these images (Deaner, Khera & Platt, 2005). As part of their study on how *M. mulatta* value images of their group members, the researchers found a high willingness to sacrifice juice, a valuable commodity in this case, in exchange for being allowed to view an image of the perineal area of a female macaque. This same willingness was not found when comparing viewing time of male and female faces. This implies that the perineum images are not considered valuable because they represent the female macaque, but because the genital area alone provides valuable information to the viewer (Deaner, Khera & Platt, 2005, p. 546). Amongst many primate species the perineal area of females is prone to oestrus swellings (Nunn 1999). In macaques these swellings primarily occur amongst younger females (Anderson & Bielert 1994), which suggests that they are not just an indicator of fertility, but also youth. Even amongst species that do not display cyclical changes in genital morphology, such as humans, genitals, as mentioned above, can still convey valuable information in regards to the individual's health, age and hygiene.

Visual stimuli have long been utilised to measure attraction and arousal responses in participants. Using sexually suggestive images in conjunction with Penile Plethysmography Testing (PPG), researchers are able to determine which stimuli are arousing to the participant (Moulier et al., 2006). This demonstrates the incredible power of sexual images, since a lifeless, 2D image is sufficient to cause arousal in study participants. It also emphasizes the role of cognitive processes and imagination in human sexual functioning. It is worthy of note that these methods are deemed not without controversy, due to them frequently being used in studies on the 'treatment' of homosexuality and other 'aberrant' sexual behaviours prior to the 21st Century (McConaghy 1969). Following the deletion of homosexuality in 1987 from the APA's Diagnostics and Statistics Manual (DSM-III-R) (Burton, 2015), these forms of 'therapy' have been delegitimised and disproven (Laws, 2009). One alternative to PPG is the use of eye-tracking software to determine interest in a given image, without the physical invasiveness (Laws & Gress, 2004). Beyond this methodological debate, however, lies

the universal acceptance that graphic images can trigger an involuntary arousal response. According to Kinsey et al.'s seminal book '*Sexual behavior in the human female*', 54% of males and only 12% of females reported any feelings of arousal upon seeing nude images (Kinsey et al., 1953, p. 652). The significant sex difference found in this study is one of the first to highlight sex-based variations in response to visual stimuli. The authors further claim that such differences are not only limited to photographic materials, but rather that there is a fundamental disdain for the penis in women:

> *Many females consider that male genitalia are ugly and repulsive in appearance,*
> *and the observation of male genitalia may actually inhibit their erotic responses*
> *(Kinsey et al., 1953, p.655).*

The lack of empirical evidence presented for this particular statement, however, renders it purely speculative. This project will test whether there are gender-based differences in the choice of positive or negative words used to associate with the term *dick pics*, which may provide further insight into whether women have generally more negative attitudes towards images of penises than men.

1.1.2.2 Sexual Offending

Instances of sexual abuse (e.g. rape, molestation), sexual assault (e.g. groping, kissing, rubbing) and sexual harassment (e.g. inappropriate sexual advances, degrading comments, negging) occur on a daily basis in every part of the world (World Health Organization, 2013). There are a number of theories to account for the origin of rape. Identifying the underlying psychological and perhaps evolutionary causes for sexual violence has been of great interest to the academic community for some time. By establishing predictive models for the behaviour, preventive measures can be taken, while clear definitions of the origins of rape and similar crimes can help to inform legislature and penal code. Evolutionary psychology posits rape as an adaptive reproductive strategy (Thornhill & Palmer, 2001), increasing male reproductive rates by guaranteeing sexual access. This theory has not been without criticism, largely due to the – sometimes misinterpreted – sense that it grants a form of absolution to rapists (Ward & Siegert, 2002). An important point of contention surrounds the categorisation of rape as either sexually or non-sexually motivated. Feminist theory maintains that rape is a part of a wider patriarchal pattern of male domination over women (Brownmiller, 1975) and that, rather than necessarily a sexual act, it is one of establishing the notion that a woman's

body is not her own, but rather the property of a man (Millett, 1969). From the perspective of evolutionary psychology, Thornhill and Palmer, among others, emphasise the role of sexual coercion as a sexual strategy, rather than one of power imbalance (Thornhill & Palmer, 2001). Alternative explanations for the gendered nature of sexual violence do exist. In the academic literature, there is some evidence to suggest a link between certain dark personality traits and the significantly higher instances of male rapists, compared to female sexual offenders (Jonason, Girgis & Milne-Home, 2017). Beyond this connection to sexual violence, the effects of personality traits on other behaviours are manifold and of considerable interest to psychologists. This is explored further in the chapter to follow.

1.1.2.3 Nude Images and Personality

The effect of certain personality traits on attitudes and behaviours regarding the sending of nude images is currently somewhat understudied. There is, however, a growing body of evidence to suggest a strong link between dark personality traits and human mating behaviour. Research regarding the impact of the Dark Triad, i.e. subclinical narcissism, subclinical psychopathy and Machiavellianism, on human courtship and sexual behaviour has increased considerably in the last decade, following the inception of the term in the early 2000's (Paulhus & Williams, 2002). In order to make sense of the impact of personality on the sending of self-taken sexual images, it is crucial to contextualise the Dark Triad within human mating interactions. Very broadly, the literature identifies a strong link between gender and Dark Triad traits. Men are said to, on average, score more highly for these traits, which are also associated with generally masculine characteristics, such as dominance and boldness (Jonason & Davis, 2018). Of the three traits, psychopathy is shown to have the strongest associations with masculinity and antisociality, whereas narcissism is linked to traditionally feminine gender roles and prosociality (Jonason & Davis, 2018). It is therefore no surprise that in mating contexts, Dark Triad traits are shown to influence mate choice and strategy. According to Jonason et al. (2009), higher Dark Triad scores are linked to a preference for frequent short-term mating and a decreased interest in monogamous long-term pair-bonding in males. This may be the case due to the low levels of empathy and high levels of manipulative, egocentric behaviour that are characteristic of the Dark Triad traits. Some evidence suggests that, though frequently considered maladaptive (Stenason & Vernon, 2016), Dark Triad traits may even constitute evolutionarily adaptive short-term mating strategies, as they encourage strategical thinking and goal-oriented mind sets (Furnham,

Richards & Paulhus, 2013). Apart from its impact on partnerships, the debate around dark personality traits frequently includes discussion of the traits' potential to cause significant harm. Of the three, psychopathy was shown to most strongly predict violence, followed by a trend towards violence being linked to Machiavellianism. Narcissism, however, was not a predictor of violence (Pailing, Boon & Egan, 2014). This includes both non-sexual, as well as sexual violence, as, for example, Jonason, Girgis & Milne-Home (2017) hypothesise that high Dark Triad scores may constitute a 'pathway to rape'.

An important component of normal social functioning is the ability to empathise with conspecifics (Eisenberg & Miller, 1987). This prevents misinterpretations and ensures harm reduction by allowing individuals to relate to each other on both a cognitive and an emotional level. Impairment of one's ability to empathise may lead to decreased prosocial behaviours (Eisenberg & Miller, 1987) and reduced social mobility (Rumble, Van Lange & Parks, 2010). Research suggests that people who score highly for Dark Triad traits struggle to describe and understand their own and others' emotions (Jonason & Krause, 2013). Previous work has investigated the links between the Dark Triad and empathy and identified mixed results. Dark Triad traits are associated with lower levels of affective empathy, i.e. the ability to experience 'emotional contagion' (Wai & Tiliopoulos, 2012). Conversely, these traits are not found to impact cognitive empathy, i.e. the ability to intellectually comprehend the feelings of another person. In fact, cognitive empathy may aid persons with dark personality traits in predicting the emotional responses of other people and subsequently using them to their advantage. Adaptively, this may present differently depending on which dark personality trait is the dominant one. In psychopaths, low affective empathy and alexithymia may lead to having lower levels of anxiety and therefore being able to focus on their personal goals without concern for other people's feelings (Jonason & Krause, 2013). In persons who show Machiavellian personality traits may utilise their cognitive empathy to identify weaknesses in their social circles, which they may exploit. Narcissists, who are reported to have high levels of cognitive empathy, may in turn use these to identify how they are viewed by others and subsequently derive their validation from persons who view them positively (Wai & Tiliopoulos, 2012).

In the context of the sending of nude images, dark personality traits may be linked to a form of sexual ineptitude. Having low levels of affective empathy may prevent senders from understanding that an image may not be wanted. While cognitively they may rationalise the sending of unwanted images, using the logic that they would like to receive

such images, on an emotional level they may be unable to comprehend how recipients may feel when receiving a UN. This level of misinterpretation of desire on the recipients' part, combined with prioritisation of one's personal needs and goals may provide an explanation for the sending of UNs by individuals who score highly on Dark Triad scales.

An analysis of the predictors for *cybertrolling* identified a relationship between increased scores for psychopathy and sadism and the aforementioned antisocial behaviour (Sest & March, 2017). The study also found a higher occurrence of trolling behaviour in men compared to women. This may be related to the fact that men generally tend to score higher for Dark Triad traits (Jonason & Webster, 2010) and that these traits are linked to antisocial behaviour (Paulhus & Williams, 2002).

A study investigating the impact of Dark Triad traits on the practice of sending nude images concluded that Machiavellianism, sex and self-rated mate value may be predictive of sending nudes (March & Wagstaff, 2017). A more recent study on male senders of UDPs, however, did not report the same findings (Oswald et al., 2019). The study assumed narcissism to be the predictive Dark Triad trait in the context of men sending UDPs. For this reason, they did not measure the potential contributions of psychopathy and Machiavellianism to the behaviour, thereby removing the comparative element from their data. As earlier research suggests a link between Machiavellianism and sending nudes (March & Wagstaff, 2017), the decision to exclude the remaining Dark Triad traits may have influenced the outcome of their survey. At 48%, the study reports an unusually high number of senders of UDPs (Oswald et al., 2019, p. 9). In their limitations the authors concede that participants may have misunderstood the meaning of 'unsolicited' and therefore over-reported the behaviour. A number of participants who, after claiming to have sent an unsolicited image, report that all images were requested by recipients (Oswald et al., 2019, p. 10) evidences this. To prevent such misunderstandings, the study utilised in this project includes a definition of terms before they are used in the body of the survey.

Although there are a number of potential personality-related explanations for the sending of unsolicited nudes, few of them have actually been validated empirically. The purpose of this research project is to test the hypotheses (see table 1.1) that have been produced based on existing anthropological and psychological data and to identify the main predictors of sending unsolicited graphic images.

Table 1.1

Hypotheses for The Project and Their Reason for Inclusion

No.	Hypothesis	Rationale
1	Men are more likely to send unsolicited nude images than women.	Discussion in public media has been largely focused on UDPs. There is a considerable body of research to suggest a prioritisation of visual stimuli in males, compared to females (e.g. Kinsey et al. 1953).
2	Women are more likely to send solicited nude images than men	Women tend to be asked to send graphic images of themselves at much higher rates than men (Salter, 2015).
3	Men who send unsolicited nude images rank higher for Dark Triad traits.	Previous research indicates a link between the sending of nudes and Machiavellianism (March & Wagstaff, 2017) and between narcissism and the sending of UDPs (Oswald et al., 2019). Manipulative tendencies and egocentric personalities may predict the sending of unsolicited nudes.
4	Men who send unsolicited nude images have higher self-report mate value.	Exposing one's genitals and inviting its scrutiny online may be accompanied by a general sense of desirability. This has first been identified by March & Wagstaff (2017).

Table 1.1

Hypotheses for The Project and Their Reason for Inclusion

No.	Hypothesis	Rationale
5	Women who report a more liberal attitude towards sending nudes are more likely to consider *dick pics* 'sexy, 'pleasing' and 'funny'.	A liberal ATSN is characterised by positive associations with nude images and may therefore be related to women who enjoy sexual images of penises.
6	Women who report a more critical/legal attitude towards sending nudes are more likely to consider *dick pics* 'gross', 'sad' and 'distressing'.	A critical ATSN reflects a generally negative opinion on sexting and nudes, which may go hand in hand with a dislike for *dick pics*.
7	Men who consider themselves feminists are less likely to send UDPs.	A positive attitude towards gender equality may be linked to a better understanding of issues of consent.

Table 1.1

Hypotheses for The Project and Their Reason for Inclusion

No.	Hypothesis	Rationale
8	People who use Snapchat or dating apps are more likely to have an accepting attitude towards sending nudes.	These applications are focused on visual communication, which may indicate a higher level of exposure to nude images. This increased exposure may in turn lead to a resigned attitude and an acceptance of nudes as part of online communication.
9	People who do not use dating apps are less likely to receive an unsolicited nude.	Some evidence suggests that males perceive females on dating apps to be of lower mate value, which may lead to a misperception of lowered standards in females (Tweten, 2018). Therefore, women on dating apps may be considered 'easy targets', making them more susceptible to the receipt of UDPs,
10	The majority of male graphic images picture their genitals.	Public discourse on graphic image sending in males almost exclusively covers depictions of genitals (Ley, 2015), hence the coining of the term *dick pic*.
11	The majority of female graphic images picture body parts other than their genitals.	There is no known universal equivalent to the *dick pic*, suggesting it may be less common for female graphic images to feature their genitals.

Table 1.1

Hypotheses for The Project and Their Reason for Inclusion

No.	Hypothesis	Rationale
13	People in the age group 18-35 are most likely to send nudes.	Sexting is a technology-facilitated behaviour, which may be mostly practised by those generations who grew up with the internet.
14	Younger people are more accepting of nudes.	The sending of nude images is an exclusively digital behaviour, which would suggest that generations exposed to the internet from a young age may be more used to online-based behaviours of any kind. Data shows that high percentages of adolescents exchange sexual images (Döring, 2014), which may be accompanied by accepting or liberal attitudes.

2 ATTITUDES TOWARDS SENDING NUDES SCALE

Note: Some of the contents of this chapter were presented as a poster at the 'What Now: The Future of Gender Relations After #MeToo' conference on 07/06/19 (see appendix C).

2.1 BACKGROUND

As discussed in chapter one, there is a fundamental lack of empirical research investigating the subject of self-taken sexual images in solicited and unsolicited contexts. In this chapter I will examine the attitudinal factors accompanying this new phenomenon by constructing a scale to measure how people feel about the practice of sending sexual images. Measuring sexual attitudes is an important methodological tool for Human Sexuality research. Sexual attitudes can disclose much about a person's upbringing, as well as predict their tendencies to engage in certain sexuality-related behaviours. While attitudes do not always correspond to behaviour, many correlations are found between the two. Examples of this include that unrestricted sociosexual attitudes predict sexual aggression in males (Yost & Zurbriggen, 2006) and that low feelings of sexual guilt predict an enjoyment of erotic rape fantasies in women (Bond & Mosher, 1986). For the most part, sexual attitudes scales are used in conjunction with a number of others, in order to provide a point of comparison and serve as a predictor in larger models (e.g. Lefkowitz et al. 2004, Yost & Zurbriggen, 2006). Comparing sexual attitudes to other contentious social traits, such as religiosity, political affiliation, and others enables the creation of a broader picture of how these attitudes interact. For example, Piedmont et al. (2008), include a single-item *Attitudes Towards Abortion* scale in conjunction with a number of other psychometric tests to measure the validity of a spirituality and religiosity short-form scale. A majority of these sexual attitudes scales were created and validated during the mid to late 20th century. When attempting to use these scales in a modern context, the phrasing and content can therefore feel somewhat dated. Sexual attitudes are inextricably linked with the social, cultural and technological ideas present, which demands that the tools used to measure these attitudes reflect the culture of the time. Eysenck's (1976) *Inventory of Attitudes to Sex*, for example, includes the statement 'I find the thought of a coloured sex partner particularly exciting', which is arguably dated language and does

not reflect the moral values of the majority of people in the 21st Century. In fact, it would be considered highly inappropriate to use such wording in current academic research. Regarding sexual attitudes scales designed to measure opinions on erotica and other sexually explicit materials, the few scales that do exist are similarly ineffective for modern use. Hudson & Murphy's *Sexual Attitude Scale* (Hudson, Murphy & Nurius, 1983), for example, includes a statement which reads 'Pornography should be totally banned from our bookstores.' This statement is only useful in the context it was written. While, prior to the 21st Century, the majority of pornographic materials may have been obtained from book shops, since the inception of the internet hardly any explicit materials are sold in physical shops. As no previously created scale is useable in the context of a research project on technology-facilitated sexual behaviour, this creates a methodological gap. For this reason, a new sexual attitudes scale has been created, with the intention of accurately measuring personal attitudes towards nude images within the context of the 21st Century. As it stands, no other scientific scale of this kind has been developed. The *Explicit Image Scale* (March & Wagstaff 2017), for example, is also intended to measure attitudes towards the sending of nude images. However, it only consists of three questions, mainly addresses unsolicited nudes and is more behavioural than attitudinal in nature (March & Wagstaff, 2017, p. 3). Other sexual attitudes scales may include one or two questions on sexual images, such as 'I like to look at pictures of nudes' or 'It disturbs me to look at sexy photographs' (Eysenck 1976), but there is no full-length scale that takes digital media into consideration, while broadly assessing people's general attitude towards the phenomenon of nude image exchange. In order to be able to integrate a valid measure of attitudes towards sending nudes into the main survey of this project, it had to first be created. Beyond the purposes of this research project, the Attitudes Towards Sending Nudes Scale has a number of other potential applications in social sciences research. As the scale measures general attitudes, it can be inserted into broader research on adolescent sexual behaviour, modern short-term mating strategies, digital sexual harassment, online gender dynamics, sexting, paraphilias and other related topics. Most of the above mentioned topics are generally understudied. By creating the ATSN scale, researchers are provided with a new tool to aid innovative research in the field of human sexual behaviour. This chapter will outline the process of scale development and validation, prior to its inclusion in the main survey.

2.2 SCALE CREATION

Due to its popularity in social sciences research and easy comprehension for participants, a 5-point Likert scale was chosen as the format of the ATSN scale (Likert, 1932). Statements were drafted by consulting the phrasing from existing sexual attitudes scales (see table 2.1) and modifying them to meet the requirements for a scale that could adequately measure attitudes towards a form of communication that is limited to the 21st Century. The initial survey consisted of 28 statements, ranging in content from the personal (e.g. 'Exchanging nudes can be a part of a healthy sex life', 'You should only send nudes to someone you love') and the societal (e.g. 'I feel socially pressured into sexting', 'Society makes too much of a fuss about *dick pics*') to the legal (e.g. 'There should be better legal protection in place for people who receive unwanted images of genitals', 'Nude selfies sent by those under the age of 18 should be treated as child pornography'). The statements were written to cover a wide range of subjects discussed in the context of modern-day *sexting* behaviours.

Table 2.1

Examples of Statements from Existing Sexual Attitudes Scales and their Rewritten Form for the Attitudes Towards Sending Nudes (ATSN) Scale

Existing scale	Original statement	ATSN statement
Sexual Rights Instrument (Lottes & Adkins, 2003)	Teenagers should be given up-to-date information on how to avoid becoming a parent before they are ready.	Teenagers should be taught about safe sexting practices.
Sexual Excitation Scale (Janssen et al., 2002)	When I look at erotic pictures, I easily become sexually aroused.	I feel excited when someone sends me a photo of their genitals after I've requested it.
Hurlbert Index of Sexual Desire (Apt & Hurlbert, 1992)	I have a huge appetite for sex.	I love receiving nudes.
Sexual Beliefs Scale (Muehlenhard & Felts, 1998)	Women often say No because they don't want men to think they're easy.	Women are generally too shy to ask for dick pics.
Revised Attitudes Toward Sexuality Inventory (Patton & Mannison, 1994)	Being whistled at in public is like getting a compliment.	Receiving unsolicited nudes is an inevitable part of online dating.

2.2.1 Methods & Materials

In order to test the reliability of the ATSN scale, the above-mentioned 28 statements were presented to a small sample in the form of an online survey. A sample size of >300 was chosen to enable factor selection using scree plots, as general guidance recommends a sample of at least 200 (Stevens, 2002). As this survey was conducted simply to test the functionality of the scale and its ease of use for participants, no demographic restrictions were placed on the sample. The sample was collected via *MTurk*, a platform which allows researchers to post surveys or other 'human intelligence tasks' (HITs) and pay participants for completing them. A main advantage of *MTurk* is the speedy turnover rate, as all participation slots were filled within less than two hours (see figure 5). This greatly reduces the time spent collecting data and enables the researcher to focus their attention on data analysis almost immediately. For a survey like this, where participants' responses are not evaluated for their content but rather their connection to each other, a platform like *MTurk* is sufficient.
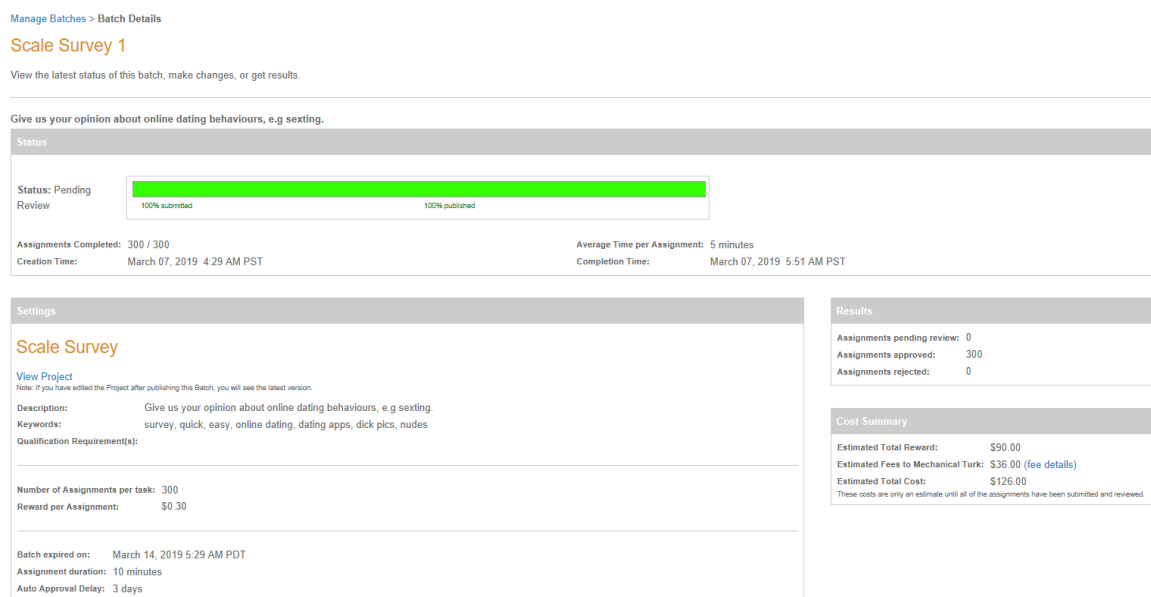

Figure 5. Batch details of the ATSN scale survey on MTurk. The survey was published at 4:29am PST and all slots were filled by 5:51am PST on 07/03/2019.

Upon accepting the HIT via *MTurk*, participants were redirected to a survey hosted on *SurveyMonkey* (see appendix A). The first page contained a briefing statement informing them of participants of the purpose for conducting the research, their rights as participants and the average length of completion. They were then required to give their consent for participation and confirm that they were over 18 at the time of taking the survey. On the second page, the terms '*sexting*', '*nudes*', '*dick pic*' and 'unsolicited' were defined, in

order to prevent misunderstandings. Participants were then presented with 28 statements (see appendix A) regarding the sending of *sexts* and nude images online. Participants were asked to rank their agreement with each statement on a 5-point Likert scale, ranging from '*Strongly agree*' to '*Strongly disagree*'. Following this, participants were required to provide some demographic information. The survey requested their age, gender, ethnicity and whether or not they identified as heterosexual. On the last page, participants were provided with a debrief and contact information for the researchers, as well as instructions on how to create their *MTurk* Unique Participant Code.

2.2.2   Principal Components Analysis & Extraction

After exporting the data collected on *MTurk*, Principal Components Analysis (PCA) using Varimax rotation was performed in SPSS 25. This procedure is a data reduction technique in accordance with standard practice for scale validation in the social sciences (Osborne, Costello & Kellow, 2008). Varimax was chosen as a method of orthogonal rotation, as it is most frequently used (Pallant, 2016). It maximises the shared variance among the items in the scale, which in turn spreads out the dispersion of loadings within components (Field, 2018). This provides more clarity during the process of assigning variables to individual components by altering the variables' squared correlations with the factors, to the point where each variable loads highly onto only one factor (Allen, 2017).

The initial Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.882 while Bartlett's Test of Sphericity indicated a significance of 0.000. As the KMO value exceeded 0.6 (Kaiser, 1974) and Bartlett's test was statistically significant (Bartlett, 1954), PCA was deemed a viable method of analysis for the given data. According to Kaiser's criterion, 6 valid factors with eigenvalues above 1 could have been extracted from the data (see figure 6). However, since Kaiser's criterion is known to generally overestimate the number of components (Zwick & Velicer, 1986), Stevens' (2002) guidance was followed by using a scree plot to choose the components. As there are three distinct plot points to the left of the point of inflexion, PCA was re-run with a pre-specified number of three components. It is generally recommended to, in part, utilise the researcher's own judgement in component selection, as there is no statistical replacement for common sense and making meaning of data remains a human prerogative (Tabachnick & Fidell, 2013). For this reason, PCA was re-run both with four (i.e. including the component at the point of inflexion) and with three pre-specified components (i.e. excluding the component at the point of inflexion). Upon comparing the

commonalities and underlying themes of the statements when grouped into three and four components, the recommendation to exclude the component at the point of inflexion (Stevens, 2002) was upheld, since the statements were most logically cohesive when
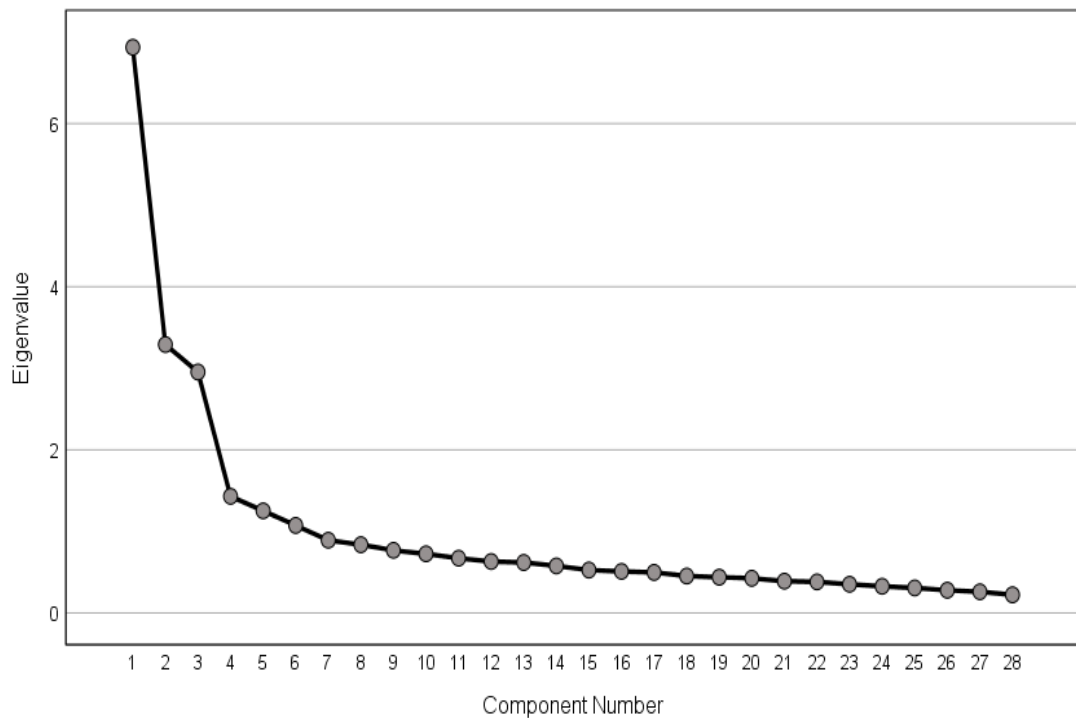

Figure 6. Scree plot of the ATSN scale, showing three distinct components to the left of the point of inflexion (Stevens, 2002).
separated into three.

Following initial component extraction, reliability analysis was performed in SPSS (see table 2.2). Due to the three underlying components of the ATSN scale, reliability testing was completed on each component individually (Cronbach, 1951). Since a Cronbach α coefficient between 0.600 and 0.700 is considered questionable (Field, 2018) '*A decent guy wouldn't send a 'dick pic' without being asked*' was deleted from the 3rd component, thereby improving the reliability, with the measure increasing from 0.629 with eight items to 0.771 with seven items. Despite the low loading of '*I prefer to go on a date with someone if I know what their body looks like*' (see table 2.3) in component 2 and its cross-loading with component 1, a decision was made to retain the item. Deletion of the item would result in only a marginal increase of the Cronbach α coefficient for component 2, from 0.840 with seven items to 0.843 with six items.

Table 2.2

Eigenvalues, Percentages of Variance, Cumulative Percentages and Cronbach α coefficient for Factors of the 23-Item ATSN Questionnaire

Factor	Eigenvalue	% of variance	Cumulative %	α
1	5.19	22.55	22.55	.88
2	3.74	16.28	38.82	.84
3	3.04	13.20	52.02	.77

There was no difference in component extraction when assessing gender separately, which allows for the same scale to be presented to participants regardless of gender.

Confirmatory factor analysis (CFA) will be undertaken for publication.

Following PCA and reliability analysis, five statements from the original set were deleted, either because they loaded below 0.5 or because a component's Cronbach α coefficient could be increased through deletion. The final scale contains 23 statements, 9 of which form the *Accepting* factor, and 7 of which make up the *Liberal* and the *Critical/Legal* factors, respectively. A copy of the full scale in the survey context can be found in appendix B, whereas the three factors and accompanying statements can be found in table 2.3.

The survey is valid according to a number of measures which determine validity. The three components have good internal consistency with Cronbach α coefficients of 0.88, 0.84 and 0.77, for factors 1, 2 and 3, respectively. Additionally, the three components explained a total of 52.02% of the variance (see table 2.2).

All factors have satisfactory Cronbach α coefficients, two of which are above 0.8. While the third factor's coefficient lies below this point, 0.77 is still more than adequate for an early-stage scale of this type (Kline, 1999). The final number of respondents ($n = 332$) met the requirements for PCA (Stevens, 2002). The results of this analysis support the use of the ATSN scale as a valid measure of attitudes towards sending nudes.

Table 2.3

*Summary of Items and Factor Loadings for the Varimax Orthogonal Three-Factor Solution for the ATSN Questionnaire (*n = 332*)*

	Item	Factor loading			Communality
		1	2	3	
6.	If you 'match' on a dating app, you should expect to receive nudes.	**.812**	.151	.038	.68
23.	I feel socially pressured into sexting.	**.791**	-.028	.108	.64
17.	I feel excited when someone sends me a photo of their genitals that I haven't asked for.	**.762**	.324	-.091	.69
1.	Online dating would be boring without nudes.	**.726**	.332	-.126	.65
2.	Dick pics are hot.	**.720**	.147	.045	.54
19.	Society makes too much of a fuss about dick pics.	**.649**	.189	.047	.46
9.	Receiving unwanted nudes is an inevitable part of online dating.	**.586**	.167	.047	.37
12.	When someone sends you a nude you didn't ask for, it's fine to share it with friends.	**.565**	.019	.088	.33
14.	Women are generally too shy to ask for dick pics.	**.562**	.096	.161	.35

Table 2.3

*Summary of Items and Factor Loadings for the Varimax Orthogonal Three-Factor Solution for the ATSN Questionnaire (*n = 332*)*

		Factor loading			
	Item	1	2	3	Communality
15.	I only send nudes when I'm comfortable with it.	.101	**.797**	.023	.65
10.	Exchanging nudes can be a part of a healthy sex life.	.167	**.735**	.043	.57
4.	You should only send nudes to someone you trust.	-.174	**.730**	.228	.62
7.	I feel excited when someone sends me a photo of their genitals after I've requested it.	.242	**.686**	.067	.54
22.	I love receiving nudes.	.422	**.654**	-.008	.61
13.	Sending nudes is like foreplay.	.378	**.636**	.032	.55
11.	I prefer to go on a date with someone if I know what their body looks like.	.331	**.441**	.062	.31

Table 2.3

*Summary of Items and Factor Loadings for the Varimax Orthogonal Three-Factor Solution for the ATSN Questionnaire (*n = 332*)*

	Item	Factor loading			Communality
		1	2	3	
21.	There should be better legal protection in place for people who receive unwanted images of genitals.	-.003	.090	**.750**	.57
3.	People should face serious consequences for sending unrequested nudes.	.173	-.067	**.709**	.54
16.	Teenagers should be prevented from sexting.	-.009	.110	**.693**	.49
8.	Senders of unsolicited nudes should be publicly shamed.	.220	-.003	**.668**	.50
20.	Nude selfies sent by those under the age of 18 should be treated as child pornography.	-.008	.118	**.642**	.43
5.	Teenagers should be taught about safe sexting practices.	-.177	.371	**.513**	.43
18.	Dick pics are inherently threatening.	.454	-.168	**.477**	.46

Note. Bold numbers indicate highest factor loadings.

2.2.3 Discussion

The three components identified through PCA were labelled Liberal, Accepting and Critical/Legal. Each component reflects a different attitude and has a focus on a specific aspect of the nude image exchange phenomenon.

> The **Accepting ATSN** is characterised by a somewhat resigned attitude to both the positive and negative aspects of sharing graphic images online. People who score highly for this component believe that, because nude images are now an acceptable form of communication, anything goes.

> High scores for the **Liberal ATSN** component indicate an intrinsically sex-positive attitude and generally uninhibited mindset in the context of nude images. People with a tendency for a Liberal ATSN believe the consensual exchange of sexual images to be a valuable contribution to modern sexuality.

> The **Critical/Legal ATSN** is focused on the detrimental effects of nude image sharing, such as unwanted images and underage sexting. High scores for this component suggest a critical viewpoint on the matter and a desire for improved legislation to protect against the receipt of unsolicited graphic images.

The aim of this initial undertaking was to construct a scale which would provide a reliable measure of people's attitudes towards the relatively new phenomenon of nude image exchange online. This scale is the first of its kind, providing valuable insight into the three main social perspectives on sending nudes. The scale was initially designed to be used in conjunction with the main survey of this project, to aid in understanding the

circumstances of sending unsolicited graphic images. Beyond this initial purpose, however, the scale has further potential for use in a variety of contexts. Measuring people's attitudes towards nude images can be beneficial for inclusion in research concerning digital sexual harassment, paraphilias, short-term mating strategies, sexting, adolescent sexual behaviour, online gender dynamic and many additional contexts. Further use is directly dependent on the results of the main survey, as they will influence the relationship between the scale and the personality of senders of UNs.

Future iterations of the scale might include the use of a track bar ranging from 1 to 5, instead of a 5-point Likert scale. This would provide definite continuous data, enabling the use of both parametric and non-parametric tests in statistical analysis (Allen & Seaman, 2007), as there is an ongoing discussion around whether Likert scales are to be classed as categorical or continuous (Jamieson, 2004). Though a track bar has the potential to increase the number of tests available during analysis, the use of non-parametric tests in this instance is nonetheless considered a valid and common form of analysis (Allen & Seaman, 2007).

3 MAIN SURVEY

3.1 INTRODUCTION

The lack of academic research on the subject of self-taken sexual images has provided a unique opportunity to conduct a broad analysis of the prevalence of these images and their senders. This survey aims to provide a starting point, upon which additional hypotheses can be based. Identifying how frequently an unwanted sexual image is sent and received can not only provide a general overview of the phenomenon, but it can also help to target specific demographics for future research. While there is much focus on the recipients of unwanted sexual images, ranging from social media activism (Tweten, 2019), to academic reviews (Henry & Powell, 2016), ascertaining senders' motives remains largely speculative. Though it is crucial to determine the effects of receiving UNs, without a clear concept of what drives someone to send a sexual image without prompt, no preventative measures can be taken, which in turn may lead to the victimisation of more recipients. This survey was specifically designed to test who sends UNs, why people send them, who these images are sent to and what consequences occur as a result of sending an unwanted

graphic image. We hypothesised that men are more frequent senders of UNs, while women are more likely to send solicited nude images. Additional hypotheses included that men who send UDPs have higher scores for dark personality traits and self-report mate value (March & Wagstaff, 2017), that younger age groups are more accepting of nude images and that individuals using dating apps are more likely to receive a UN. Regarding the content of the images, we hypothesised that images sent by men are more likely to picture their genitals, whereas images sent by women more frequently show their breasts or buttocks.

3.2   METHODS AND MATERIALS

3.2.1   Developing Methodology

This chapter outlines the specific decisions involved in creating the methodology for this research project. A full copy of the final survey can be found in appendix B.

3.2.1.1   The Survey Medium

For this project, the approach used to answer the research questions effectively was to create an online survey, since the behaviour of interest occurs exclusively online. Using a survey has a number of benefits (Sánchez-Fernández, Muñoz-Leiva & Montoro-Ríos, 2012; Smith et al.; 2016, Field, 2018; Allen, 2017). It is an accessible format that can be shared to a wide audience, without geographic constraints. Additionally, the inherent anonymity and privacy may encourage truthful responses to otherwise potentially embarrassing or uncomfortable questions. A structured or semi-structured in-person interview, on the other hand, may have caused participants to adjust their answers according to interviewer effects and social desirability.

In general terms, survey data is easier to quantify, depending on the choice of response formats. Due to the target sample size of ~ 500 and the time constraints of a one-year degree programme, fast and automated quantitative analysis was a priority when designing the research project.

As with any method of data collection, there are some unavoidable downsides. Firstly, with constant improvements in online surveying software comes an increase in popularity of surveys as market research tools. Consequently, people are becoming fatigued with the overwhelming number of surveys they are asked to complete on a regular basis. This may lead to lower participation rates or response quality, caused by speeding through (Smith

et al., 2016). Secondly, the pressures of social desirability may affect responses. Though this may be mediated by the anonymity of an online survey, the effects of conformity may still be recognisable in survey responses, in the form of either untrue or comedic answers (Sánchez-Fernández, Muñoz-Leiva & Montoro-Ríos, 2012). Thirdly, confusion cannot be addressed as and when the survey is taken, whereas face to face research permits the asking of questions. This can have a significant impact on the interpretation of questions and, subsequently, the way they are answered (Smith et al., 2016).

3.2.1.2 Survey Platform, Collectors & the Sample

While there are many reputable survey platforms available to research students, not all offer accessible pricing options for a limited research budget. With this in mind, *SurveyMonkey* was chosen for its affordable license, wealth of options for design and layout, simple export into SPSS and ease of use. There is an established precedent for using the *SurveyMonkey* platform in academic research (see Sest & March, 2017).

Due to opportunity sampling, there are inherent risks when it comes to sample quality. In order to avoid the sample being biased in any particular direction, the survey was disseminated via a variety of social networks and online platforms. These include *Instagram*, *Reddit*, *Facebook*, *Call for Participants* and private sharing (table 3.1). The majority of the sample, however, was collected via *MTurk*.

Table 3.1

Collectors and their Contribution to the Sample

Collector	*n*	%
MTurk	268	59
Facebook	77	17
Reddit	38	8.4
Call for Participants	33	7.3
Instagram	26	5.7
Private sharing	12	2.6

Methodologically, there is a considerable history of data being collected only on men or, if female participants are included, not to disaggregate the data by sex (Curno et al, 2016; Hughes, 2007; Yoon et al., 2014; Karp et al., 2017). For this reason, a conscious effort was made to create a gender balanced sample, by targeting recruitment to the respectively less represented group at several stages during the data collection process. Little is known about female sexting practices, which can be attributed to the focus of public media on the phenomenon of the dick pic. As there is no data on the proportion of solicited and unsolicited nude images women send, it is assumed that the behaviour mainly occurs in men.

3.2.1.3 Incentives and Personalisation

Increasing sample size is a concern for most academic researchers, especially those studying sensitive subjects, such as wild animal poaching, criminal behaviour and sexuality. The power of social desirability is not to be underestimated when collecting data. In addition to the potentially sensitive subject of sending unsolicited nudes, the length of the present study was also deemed a potential hazard to completion rate. After identifying these factors, including a prize draw at the end of the survey was considered. Many studies use prize draws as an incentive for participants to take part in a study – and follow through until the end. However, according to Sanchez-Fernandez, Munoz-Leiva & Montoro-Rios (2012), post-incentives in the form of prize draws do not significantly increase participant numbers. For this reason, and due to a limited budget, a prize draw was deemed superfluous for this project. There is, however, evidence to suggest that personalisation can have a substantial impact on response quality (Sanchez-Fernandez, Munoz-Leiva & Montoro-Rios, 2012). For this reason, the advertising message preceding the survey link was personalised for each different collector (table 3.1), varying in length, tone and style, to specifically attract the user of each individual platform.

Though the majority of participants were unpaid, those accessing the survey via *MTurk* received payment in accordance with the platform's guidelines. This decision was based on the need to increase the size of the sample, as well as a desire to define certain sample characteristics. Participants were compensated for their time with 0.40 USD. The selection process involved excluding anyone from participating who did not live in Australia, Canada, Germany, Great Britain or the USA. This selection was made to ensure

a cohesive sample of culturally similar participants, with equally broad access to technology and the internet.

3.2.2 Existing Scales and Measures

The use of pre-validated and well-established scales is standard academic practice within the social sciences. This permits comparison across samples, which in turn increases the reliability of the scale used. For this project, a mixture of pre-existing scales and newly formulated questions was deemed the most balanced and appropriate option, thereby creating a rich body of data and enabling varied analyses. In this chapter, we present an overview of the different scales that were chosen for inclusion in the survey and why they were selected.

3.2.2.1 Short Dark Triad Scale

Part of the research project seeks to address whether senders of unsolicited nude images rank higher on scales measuring Dark Triad (i.e. subclinical narcissism, subclinical psychopathy and Machiavellianism) traits. There is some previous evidence that links the sending of nude images with a tendency for Machiavellianism (March & Wagstaff, 2017), although the study did not find the same links for the other two psychological traits. Several factors influenced the choice of scale used to measure Dark Triad traits in this survey. A main concern here was the length of many available scales. Because the survey had to address a multitude of different issues and aspects, it was important to shorten the length of any scales as much as possible, in order to avoid participant fatigue. There are many scales measuring Dark Triad traits, each useful in their own right and yet not all useable in every context. The majority of these measures are longer than 20 items (e.g. Mach IV; Christie & Geis, 1970), which, while perhaps providing a more thorough result, can negatively affect survey length and, by association, response rates and quality (Burchell & Marsh, 1992). Due to the already considerable length of the remaining survey, a decision was made to forego using the same scales as March & Wagstaff (2017), despite the possibility of this reducing the ability to compare results. The three scales were replaced in favour of the Short Dark Triad (SD3) scale (Jones & Paulhus, 2014). This 27-item scale is thoroughly validated and strikes the necessary balance between brevity and accuracy. While there are some shorter scales available, such as the Dirty Dozen (Jonason & Webster, 2010), they were decided against for lack of thoroughness (Maples, Lamkin & Miller, 2014).

3.2.2.2 Self-rated Mate Value

Edlund and Sagarin's Self-rated Mate Value scale (2014) is a single factor, four-item scale designed to assess an individual's perception of their desirability as a partner. The statements, which include both personal perception of one's quality as well as mate value comparative to others, are ranked on a 7-point Likert scale. The scale is frequently used in related psychological and anthropological studies, including March and Wagstaff's paper on unsolicited graphic images (March & Wagstaff, 2017). This scale was included in the survey in order to replicate their procedure, which in turn would permit comparison of results.

3.2.2.3 Eysenck's Prudishness Factor

As mentioned in chapter 2, the majority of scales attempting to gauge the respondent's sociosexual attitudes were created in the mid-to-late 20th Century. For this reason, many of the statements are no longer valid in regards to modern contexts. The *Attitudes Towards Sexuality Scale,* for example, includes the statement '[p]etting (a stimulating caress of any or all parts of the body) is immoral behavior [sic] unless the couple is married' (Fisher & Hall 1988). Sex outside of marriage is no longer considered a social taboo, therefore rendering such statements applicable only to populations on the fringe of average societal attitudes. While there was no scale, which was useable in its entirety, the *Inventory of Attitudes to Sex* (Eysenck 1976, p. 80) is divided by multiple factors, one of which was included in this survey. The Prudishness factor includes a number of questions that are still applicable today, despite the fact that it was created in 1976. Prudishness and sexual openness are important measures of an individual's social background. This general cultural attitude can have distinct effects on sexual behaviour and it may prove to affect the sending of nude images. See appendix B for a list of the statements.

3.2.2.4 ATSN Scale

Please refer to Chapter 2 for a detailed description of the ATSN scale.

The ATSN scale was included for the purpose of measuring the participants' attitudes towards nude images, in order to create a cohesive image of attitudes and behaviours and to compare the two.

3.2.3 Novel Methods

As mentioned previously, existing research on unsolicited nude images is somewhat lacking in methodological depth, which means that many of the factors explored in this thesis have not been used before. Since this survey was framed as an exploratory project, a large number of data points were collected. Although this increased the length of the survey considerably, it was necessary to permit an in-depth exploration of the multitude of facets that may be affecting the sending of unsolicited sexual images. Data on the age of individuals was gathered, to assess whether certain sexting behaviours are more prevalent among certain age groups. As underage sexting is classified as child pornography, the wording on the questions inquiring about personal sexting behaviour included the phrase 'after the age of eighteen', in order to prevent disclosure of illegal activities. Although adolescent sexting behaviour is of considerable interest to the academic community, it was excluded entirely from this project. This is, in part, due to the additional ethics clearance required to survey adolescents on their sexual behaviour. The main factor in excluding adolescents from the study, however, was the scarcity of academic research on adult sexting. To date, much of the focus has been on investigating the prevalence of teen sexting (Henry & Powell, 2016), due to the legal implications associated with the behaviour in minors. As there is a considerable body of research already available, this survey was designed to only measure the predictors of adult exchange of graphic images, wherein an adult is classified as any person above the age of 18. Beyond the standard demographic questions, participants were asked whether they identified as feminists and whether they believed in equal rights for all genders. These questions were included because I hypothesised that men who identify as feminists are less likely to send an unsolicited *dick pic*.

According to a recent literature review, no previous studies have investigated the type of relationship between sender and recipient of nude images (Klettke, Hallford & Mellor, 2014). In order to identify patterns of relationship dynamics when sexting, the survey collected data on who solicited and unsolicited images were sent to, as well as who they were received from. Possible dynamics included strangers, acquaintances, prospective sexual partners, short-term and long-term partners. The review also did not describe any surveys measuring the number of individuals who had taken a nude image independently of sending one (Klettke, Hallford & Mellor, 2014). In order to test whether some people only take suggestive photos of themselves, without passing them on to others, the survey

measured sexting behaviour on five levels: taking a nude image, sending a nude image, sending a specifically requested nude image, sending an unsolicited nude image and receiving an unsolicited nude image.

One of the project's objectives was to ascertain not only the prevalence of UN sending behaviours, but also the impact they have in society. This would then serve to conceptualise the practice as either a form of sexual harassment or a normal aspect of modern sexuality. To measure this, the survey included a section on why the photos were sent (e.g. they were requested, to start a conversation or to get a reaction from the recipient), as well as positive (e.g. date, sex, relationship) and negative (e.g. getting blocked, rejection, public shaming) outcomes of sending an unsolicited nude image. To further investigate the societal component, all participants, regardless of their past behaviour, were asked if they would consider sending a photo of their genitals if someone requested it.

3.2.4   Procedure

This is an overview of the contents of the project's main survey. For a copy of the full survey released to participants, please refer to appendix B.

On the title page, participants were informed of the subject and purpose of the research, names and contact details of the responsible researchers and their rights according to ethical guidelines. Participants could only begin the survey upon confirming that they consent to taking part, they are over the age of 18 and they know who to contact in case they wish to withdraw their data or raise any concerns. This brief also included approval of the survey by the School of Anthropology and Conservation, University of Kent Research and Ethics Committee.

The second page prompted participants to create a unique ID number, which they would need to quote to the researchers, in case they should wish for their data to be erased. This code was to be made up of the participant's day of birth, the last letter of their surname, followed by the house number of their childhood home. This somewhat complicated format was chosen to prevent the disclosure of personal information (i.e. if the code was made up of their birth date) and to avoid identical codes between two or more participants. If entered correctly, participants could not be identified by this unique participant ID.

On the third page, demographic information regarding the participant's age, gender, level of education, country of residence, annual income, sexual orientation, feminist beliefs and opinions on equal rights for all genders was collected.

This was followed by Part 1 of the main survey, entitled '*Apps*', wherein participants were given a list of social media, image sharing, networking and dating sites/applications. Questions included whether or not they used any of the given apps and the purpose of their use, e.g. maintaining friendships, making new connections, or as part of their romantic/sexual life.

In '*Part 2 – Sexting*' participants were first provided with a list of definitions for the terms *sexting*, *nudes*, *dick pic*, solicited and unsolicited. This was to enable participants from all educational backgrounds to respond to all questions accurately. Firstly, they were asked whether they had ever taken nude in general terms after reaching legal age. If participants responded with 'yes' they were led to a page asking which body parts were visible in the image(s) (e.g. breasts, buttocks, penis, vulva/vagina, torso), who, if anyone, they'd sent these photos to and why. If they responded with 'no' they were led straight to the next section, asking whether they had ever received an unwanted graphic image. Following the same structure, participants who responded with 'yes' were asked, which body parts were visible in the unrequested photos and who they'd received them from, whereas participants who said 'no' bypassed this section. All participants were then asked whether they had ever sent an unsolicited graphic image. If the answer was 'yes' they would be asked about the visible body parts, who they'd sent the image(s) to and whether they had ever experienced positive results or suffered negative consequences from sending an unsolicited graphic image. On the next page, participants were asked if they would consider sending a requested photo of their genitals, providing three different scenarios for 'yes' ('if they're my partner', 'if I want to have sex with them' and 'if it's a funny situation'). Participants who answered 'no' were asked to give a reason, the options ranging from 'I would feel self-conscious' to 'I don't trust the other person to keep it private'. On the final page of '*Part 2*', participants were given a range of words (e.g. gross, funny, boring) and asked to tick whichever ones they associate with *dick pics*. This list of words is directly replicated from a question in a recent *YouGov* survey (2017).

'*Part 3 – Social Attitudes*' contained the Short Dark Triad Scale (Jones & Paulhus, 2014).

In '*Part 4 – Desirability*', the participant's perceived desirability was measured using Edlund & Sagarin's *Self-rated mate value* scale (2014). This 4-item questionnaire requires the participant to determine their value as a partner on a 7-point Likert scale.

Following this, participant's filled in a scale to measure their prudishness in '*Part 5 – Attitudes Towards Sexuality*'. This scale was based on Eysenck's *Inventory of Attitudes to Sex* (1976). Questions were scored on a 'Yes' or 'No' measure, with the '?' in Eysenck's original scale being replaced with 'Not sure', to improve comprehension.

In the next section - '*Part 6 - Attitudes Towards Sending* Nudes' – participants were presented with the ATSN scale, spread across five pages. This concluded the body of the survey.

Participants were then led to the '*MTurk Participant Code*' page. This section was only applicable to participants accessing the survey via *MTurk*. Here, they were prompted to enter a unique completion code, which they would then enter on the *MTurk* HIT page. This enabled participants to receive their monetary compensation and to prevent fraud.

On the last page of the survey, participants received a thorough debrief, covering the research objectives, notes about potential publication of the results, and data protection. They were also reminded of the researchers' contact information and the fact that their data can be withdrawn upon quoting their Unique Participant ID.

3.2.5   Analytic Strategy

All data analysis was performed using SPSS version 25. The level of statistical significance was selected at 0.05, in line with standard practice for the social sciences (Cowles & Davis, 1982).

3.2.5.1   Demographic data

For demographics, percentages given are those of the entire sample ($n = 406$); where numbers do not add up to 100% this indicates that the remaining percentage of participants left the question unanswered. The main survey only requested the participants' gender, not their biological sex. As a consequence, every mention of 'male', 'female', 'man' or 'woman' relates only to the person's gender and not necessarily to their sex assigned at birth. As with all self-report data, responses are dependent on the participant's definition of the term 'gender'.

3.2.5.2 Correlations

Correlations between two continuous variables were calculated using Spearman's rank order correlation, whereas relationships between one categorical and one continuous variable were investigated through Mann-Whitney U tests. Finally, categorical variables were calculated using the chi-square test for independence. In order to meet the assumptions for the minimum expected cell frequency for the chi-square test, i.e. to prevent a minimum expected count of less than five, some variables were transformed from continuous to categorical, by collapsing them into larger groupings. Examples of this include age and sexuality. See table 3.3 for a comprehensive list of all variable transformations.

For correlational analyses, the effect size, i.e. strength of relationship, was determined using Cohen's (1988) guidance (see table 3.2), i.e. small (rho = 0.10 - 0.29), medium (rho = 0.30 - 0.49) or large (rho = 0.50 – 1.0).

Table 3.2

Interpretation of Effect Sizes for Different Statistical Measures Based on Cohen (1988)

Statistic	Effect sizes		
	Small	Medium	Large
Spearman's *rho*	.10	.30	.50
Phi coefficient	.10	.30	.50
Cramer's V (for *df** = 1)	.10	.30	.50
Cramer's V (for *df** = 2)	.07	.21	.35
Cramer's V (for *df** = 3)	.06	.17	.29

Note. df* is the smaller value of either the number of rows or columns subtracted by 1 (Gravetter & Wallnau, 2016).

There is a continuing debate regarding the treatment of Likert scale type data in statistical analysis. Though data from Likert scales is arguably categorical, rather than continuous, many researchers choose to analyse the data as though the variable was continuous (Jamieson, 2004). In practice, this suggests any analysis using means as the measure of central tendency should be avoided. For this reason, the tests chosen for the data derived from Likert scales were exclusively non-parametric, as they work by utilising either the median, rank or range (Allen & Seaman, 2007).

The Short Dark Triad scale was analysed as follows. Scores were calculated for each individual trait, i.e. narcissism, psychopathy and Machiavellianism. The mean of the

person's responses to the individual statements in the scale was used as the score for each trait. Missing responses were replaced with the mean.

The main dependent variable in the analysis was the sending of unsolicited sexual images. It was categorised as a binary variable (Sent UN), where a score of 1 reflected the participant had sent a UN and 0 signified they had not (see table 3.3). As Sent UN is categorical variable, logistic regression is the most appropriate procedure. In order to predict the sending of unsolicited nude images, four binary logistic regression models per gender were used in the analysis. The independent variables used in both sets of models were tested for multicollinearity, in order to prevent the use of highly intercorrelated variables in the models. In the first instance, data was separated by gender and analysed separately. Initially, a Forced Entry Method was utilised to identify the significance of certain scores as predictors of Sent UN. All tolerance values were above .1, suggesting low intercorrelations and permitting the variables' inclusion in the models (Pallant, 2016).

In Model 1, the relationship between Dark Triad traits and the sending of UNs was explored, by entering narcissism, psychopathy and Machiavellianism scores into the equation. In Model 2, the self-rated mate value score was tested for its' relationship to UN sending. Model 3 tested associations between the components of the ATSN scale (Liberal, Accepting and Critical/Legal) and the sending of UNs. Model 4 was an additive model, consisting only of the significant components of the previous models. Upon building the additive models for each gender using Forced Entry, the model was confirmed by entering the components of models 1 through to 3 in a Backward Conditional stepwise procedure. This produced the same results for Model 4 and therefore suggests that the model is statistically sound.

3.2.5.3 Variable Transformation

Many of the variables obtained from the survey were used in their original form. A majority, however, had to be transformed in some way to enable the testing of the hypotheses set out in the beginning.

Due to the sensitive nature of the subject, there was no direct variable calculating who had sent a nude image. Instead, the responses to the question 'I've never sent an image that I've taken' were recoded into the new variable 'Sent Nudes'. The original variable only had a single value 'Never Sent' (1), which implies that all missing responses mean an image was sent. The value of 'Never Sent' was recoded from 1 to 0, whereas the value

of 'Has Sent' was recoded from Missing to 1 in the new variable 'Sent Nudes'. This variable was only utilised in conjunction with the 'Select Cases' function in SPSS, in order to only include those participants who answered 'Yes' to having taken a nude image, as the variable would otherwise place individuals who had never taken a nude image in the 'Has Sent Nudes' category. This is a consequence of using skip logic on *SurveyMonkey*, whereby only individuals who clicked 'Yes' were shown the option to select 'I've never sent an image that I've taken' and those who clicked 'No' were directed to the next section. A full description of variable transformations can be found in table 3.3.

Table 3.3

Variables Used in Analysis and their Transformations

Variable			
Name	Type	Measures	Transformation
Sent Nudes	Categorical	The individual has sent a nude image.	Recoded responses from 'I've never sent a nude that I've taken' into Sent Nudes.
Sent UNs	Categorical	The individual has sent an unsolicited nude image.	Coded as 'Has Not Sent' (0) and 'Has Sent' (1).
Country	Categorical	Country of residence	South Africa and Vietnam were excluded from analysis, due to being in the Global South.
Gender	Categorical	Participant's gender	Persons who identified as 'other' were excluded from analysis, due to low sample size.
Feminist	Categorical	Whether the participant identifies as a feminist	Respondents who selected 'other' were excluded from analysis, due to low sample size.

Table 3.3

Variables Used in Analysis and their Transformations

Variable			
Name	Type	Measures	Transformation
Sexuality	Categorical	The individual's sexual orientation	Recoded responses from 'What is your sexual orientation?'. Participants were asked to fill in their sexuality in an open text box. These responses were then coded into 'Asexual', 'Heterosexual', 'Homosexual', 'Polysexual' and 'Other' within the new Sexuality variable.
Photo of buttocks	Categorical	Participant took a photo of their buttocks	Recoded responses from Buttocks (1) into 'Has Taken A Photo Of Their Buttocks' (1) and 'Has Not' (0).
Photo of genitals	Categorical	Participant took a photo of their genitals	Combined variables 'Took Photo of Penis' and 'Took Photo of Vulva/Vagina' into a single variable differentiated by 'Has Taken Genital Photo' (1) and 'Has Not' (0).
Photo of upper body	Categorical	Participant took a photo of their upper body (e.g. breasts or torso)	Combined variables 'Took Photo of Breasts' and 'Took Photo of Torso' into a single binary variable differentiated by 'Has Taken Photo Of Their Upper Body' (1) and 'Has Not' (0).
Received UN	Categorical	Individual has received an unwanted explicit image	Recoded 'Yes' (1) and 'No' (2) into 'Has Received UN' (1) and 'Has Not Received UN' (0).

Table 3.3

Variables Used in Analysis and their Transformations

Variable			
Name	Type	Measures	Transformation
Positive Word Score	Continuous	Score of positive words associated with dick pics	Computed new variable by calculating the mean from 'Funny', 'Sexy' and 'Pleasing'.
Negative Word Score	Continuous	Score of negative words associated with dick pics	Computed new variable by calculating the mean from 'Gross', 'Boring', 'Stupid', 'Sad', 'Distressing' and 'Threatening'.
Mate Value	Continuous	Individual's self-rated mate value score	Computed by calculating the mean of the four mate value scale items (see 9.2.2.2).
Machiavellianism	Continuous	The individual's score for Machiavellianism	Calculated using the mean average of the responses to the Machiavellianism subset of the SD3 scale (Jones & Paulhus, 2014)
Narcissism	Continuous	The individual's score for narcissism	Calculated using the mean average of the responses to the narcissism subset of the SD3 scale (Jones & Paulhus, 2014)
Psychopathy	Continuous	The individual's score for psychopathy	Calculated using the mean average of the responses to the psychopathy subset of the SD3 scale (Jones & Paulhus, 2014)

Table 3.3

Variables Used in Analysis and their Transformations

Variable			
Name	Type	Measures	Transformation
Use of Dating Apps	Categorical	Whether the participant uses dating apps.	A binary variable created by calculating the mean of the scores for the use of Tinder, Grindr, Feeld, Bumble, Hinge, Raya, OKCupid, matchcom, CoffeeMeetsBagel, PlentyofFish and eHarmony. Scores were coded as either Does Not Use Dating Apps (0) or Uses Dating Apps (1).
Liberal ATSN	Continuous	The mean of the participant's scores for the Liberal ATSN factor	Calculated using the mean of the responses to the statements in the Liberal factor (see table 2.3).
Critical ATSN	Continuous	The mean of the participant's scores for the Critical/Legal ATSN factor	Calculated using the mean of the responses to the statements in the Critical/Legal factor (see table 2.3).
Neutral ATSN	Continuous	The mean of the participant's scores for the Accepting ATSN factor	Calculated using the mean of the responses to the statements in the Accepting factor (see table 2.3).
Age Groups	Categorical		Transformed the continuous variable Age into a categorical one, consisting of 5 groups: 0-17 (0), 18-24 (1), 25-39 (2), 40-59 (3), 60-100 (4). Scores of 0 were excluded from analysis, due to age restrictions for minors.

Note. Numbers in brackets indicate label values.

3.3   RESULTS

3.3.1   Descriptive Statistics

454 people opened the link to the survey. Of these, 406 completed all or most questions and are included in the demographic analysis. On average, participants took just under ten minutes to complete the survey. The majority of the sample identified as female (55.3%), heterosexual (76.6%), aged between 25 and 39 (56.4%), resident in the USA (62.4%) and educated beyond Secondary School level (96.5%).

3.3.1.1   Demographics

Over 80% of the sample were below 40 years of age (table 3.4). Gender identity was split almost equally between men and women, with only 0.7% identifying as 'other' (table 3.4). Sexuality and sexual behaviour were measured separately. Firstly, participants were asked about the gender of the persons they had had sex with. This showed that over 90% of the sample had engaged in sexual intercourse with the opposite gender (table 3.4). Secondly, participants were asked to enter their sexuality into an open text box. This indicated that the majority of the sample identified as heterosexual (76.6%), followed by polysexual identities (18.2%; table 3.4). The majority of the sample were resident in the US (62.4%) or UK (27.9%, table 3.4), while 62.5% reported an annual income of £20,000 or more (table 3.4). Only 3.4% of the sample were not educated beyond secondary education, while over half of the sample (52.7%) had received a university degree at undergraduate level (table 3.4).

Table 3.4

Demographic Characteristics of Participants (N = 403)

Characteristic	*n*	%
Age group (years)		
18-24	97	24.1
25-39	**227**	**56.3**
40-59	68	16.9
60+	8	2.0

Table 3.4

*Demographic Characteristics of Participants (*N *= 403)*

Characteristic	*n*	%
Gender		
Female	**222**	**55.1**
Male	175	43.4
Other	6	1.5
Country of residence		
Australia	2	.5
Austria	2	.5
Belgium	1	.3
Canada	11	2.8
Croatia	1	.3
Denmark	1	.3
France	2	.5
Germany	5	1.3
Italy	1	.3
Netherlands	1	.3
Portugal	1	.3
Spain	2	.5
Sweden	2	.5
Switzerland	3	.8
United Kingdom	110	28.1
USA	**246**	**62.9**
Highest education level		
Up to Secondary Level	14	3.5
Further Education	102	25.3
Academic Qualifications	**286**	**71.0**
Prefer Not To Say	1	.2
Annual income (£)		
0-10,000	61	15.1
10,000-20,000	63	15.6
20,000-40,000	**109**	**27.0**
40,000-60,000	71	17.6
60,000+	71	17.6
Prefer Not To Say	28	6.9

Table 3.4

*Demographic Characteristics of Participants (*N = 403)*

Characteristic				*n*			%
	Total Sample (*n* = 398)		Females (*n* = 220)		Males (*n* = 173)		
	n	%	*n*	%	*n*	%	
Sexuality							
Asexual	3	.8	2	.9	1	.6	
Heterosexual	**304**	**76.4**	**151**	**68.6**	**151**	**87.3**	
Homosexual	14	3.5	4	1.8	10	5.8	
Polysexual	73	18.3	60	27.3	10	5.8	
Other	4	1.0	3	1.4	1	.6	
	Females (*n* = 222)			Males (*n* = 175)			
	n	%		*n*	%		
Have Had Sex With							
Men	**210**	**94.6**		26	14.9		
Women	64	29.2		**158**	**90.8**		

Note. Bold numbers indicate the highest percentages per category.

3.3.1.2 App Usage

Table 3.5 shows that for non-sexual behaviours, such as 'keeping in touch with friends', participants preferred to use a social media platform, rather than a dating app, whereas romantic and sexual encounters were mostly sought on applications which are designated for such a purpose. Over a third of the sample (36.5%) used dating apps.

Table 3.5

Participants' App Usage and Purpose of Use

App	Used by (%)	Keeping in touch with friends	Meeting new people	Dating	Casual hook-ups	To find a partner	Sexting
		Used for (%)					
Instagram	71.7						
Facebook	86.1	91.4	31.4	10.4	3.9	4.4	3.4
Twitter	42.9						
Snapchat	40.9	80.7	23.2	11.8	7.5	4.4	21.1
Dating apps	36.5	16.1	58.9	62.5	43.5	38.1	22

Note. Percentages in the 'Used for' columns were calculated by subtracting the number of people who ticked the box saying they did not use the specific app from the sample (N = 403). The percentage of people claiming a certain usage was then calculated from this new sample of specific app users, instead of the entire sample. 'Instagram', 'Facebook' and 'Twitter' were collated into one 'Social Networking' category in the 'Used for' columns.

3.3.1.3 Sexting

Of the people who have taken a nude photo of themselves, 4.8% use Facebook & Instagram for sexting, 17.2% sext on Snapchat and 12.5% sext on dating apps. The percentages for the entire sample (taken a nude or not) are 3.2%, 11.8% and 9.4%, respectively. Over 60% of the sample had taken a nude image of themselves, with more females (74.4%) than males (62.1%) reporting the behaviour. The same goes for the receipt of unsolicited graphic images, where 62% of females compared to only 36.1% of males claimed to have received such an image. Only a low percentage of the sample (20.7%) indicated having sent a graphic image that was not requested by the recipient. As with the previous two categories, females reported the behaviour more frequently (25.5%) than males (14.2%, table 3.6).

Table 3.6

Experiences With Nude Images

Action	Entire sample (*n* = 403)		Males (*n* = 175)		Females (*n* = 222)	
	n	%	*n*	%	*n*	%
Taken nude image	270	69.2	105	62.1	160	74.4
Received unsolicited nude image	197	50.8	61	36.1	132	62.0
Sent unsolicited nude image	80	20.7	24	14.2	54	25.5

The majority of the sample reported sending their solicited (63.7%) and unsolicited (60.3%) nude images to a long-term romantic or sexual partner (see table 3.7). Only male senders of unsolicited nudes sent them more frequently to an acquaintance (50%) than a partner (45.8%).

50.8% of the sample had received an unsolicited image before (see table 3.6). Women most frequently received unsolicited images from strangers (68.2%), whereas men most frequently reported receiving an unsolicited sexual image from an acquaintance (47.5%).

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Table 3.7

Recipients of Self-Taken Sexual Images

Recipient	Solicited (%)				Unsolicited (%)					
	All (*n* = 270)	Females (*n* = 160)	Males (*n* = 105)		All (*n* = 270)	All UN senders (*n* = 78)	Females (*n* = 160)	Female UN senders (*n* = 54)	Males (*n* = 105)	Male UN senders (*n* = 24)
Stranger	13.3	12.5	13.3		6.3	24.4	5.0	14.8	8.6	45.8
Acquaintance	33.7	32.5	35.2		11.9	42.3	12.5	38.9	**11.4**	**50.0**
Prospective sexual partner	37.8	37.5	39.0		9.3	32.1	8.1	24.1	10.5	45.8
Romantic/sexual partner (long-term)	**63.7**	**68.8**	**55.2**		**17.4**	**60.3**	**22.5**	**66.7**	10.5	45.8
Romantic/sexual partner (short-term)	40.4	43.1	34.3		9.6	34.6	10.0	29.6	8.6	41.7

Note. Bold numbers indicate the highest percentage per column.

Regarding the sending of *requested* images of genitals, the vast majority of respondents would send such an image under certain circumstances: 60.1% of people with a vulva would consider sending an image of it, whereas 71.9% of people with a penis would agree to send a solicited image of their genitals (see table 3.8). People with vulvas more frequently answered 'no' to this question (37.4%) than people with penises (27.0%). The reasons not to send such an image varied based on the gender of the respondent (see table 3.9). While feeling self-conscious was the most reported reason for women (8.7%), not wanting their genitals on the internet was the most common reason for men not to agree to sending a *dick pic* (64.2%).

Table 3.8

Frequency Data for Whether Participants Would Send a Photo of their Genitals if it Was Requested

	Vulva (*n* = 246)		Penis (*n* = 196)	
Responses	*n*	%	*n*	%
Yes, if they're my partner	98	**39.8**	82	**41.8**
Yes, if I want to have sex with them	44	17.9	49	25.0
Yes, if it's a funny situation	6	2.4	10	5.1
No	92	37.4	53	27.0

Note. To calculate the *n* for vulva and penis, the number of participants who clicked 'N/A- I don't have a penis/vulva' was subtracted from the total number of respondents for each question.

Table 3.9

Frequency Data for Why Participants Would Not Send a Photo of their Genitals if it Was Requested

	Females (*n* = 92)		Males (*n* = 53)	
Reasons	*n*	%	*n*	%
I would feel self-conscious	8	**8.7**	14	26.4
I don't want my genitals on the internet	7	7.6	34	**64.2**
I prefer showing it in real life	3	3.3	11	20.8
I don't trust the other person to keep it private	6	6.5	19	35.8
I don't even want to show it in real life, never mind online	0	0.0	6	11.3

Note. The *n* was taken from the number of people who answered 'No' in table 3.8. For the purposes of this table it was assumed that persons with vulvas identified as female and persons with penises identified as male.

Table 3.10

Recipients' Report of Who They Received Unsolicited Sexual Images From

Received from	All (n = 197)		Females (n = 132)		Males (n = 61)	
	n	%	n	%	n	%
Stranger	119	**60.4**	90	**68.2**	26	42.6
Acquaintance	76	38.6	45	34.1	29	**47.5**
Prospective sexual partner	66	33.5	43	32.6	23	37.7
Romantic/sexual partner (long-term)	20	10.2	6	4.5	13	21.3
Romantic/sexual partner (short-term)	23	11.7	10	7.6	13	21.3

Note. Bold numbers indicate the highest percentage per column.

3.3.1.4 Consequences

The sending of unsolicited nude images has varying outcomes depending on the gender of the sender (see tables 3.11 and 3.12). Overall, women reported positive results from sending unsolicited graphic images more frequently than men did, whereas negative consequences were more likely to result from men sending UNs. For men, the most likely positive outcome of sending a UN was sex (66.7%), whereas for women it was sexting/flirting (64.8%). The most likely negative consequence for men was being insulted (50%) and for women it was being privately shamed or insulted (both 9.3%).

Table 3.11

Positive Outcomes of Sending Unsolicited Nudes

	Females (*n* = 54)		Males (*n* = 24)	
Result	*n*	%	*n*	%
Date	14	25.9	13	54.2
Sex	30	55.6	16	66.7
Sexting/flirting	35	64.8	13	54.2
Relationship	18	33.3	7	29.2
Other	5	719.3	0	0.0

Table 3.12

Negative Consequences of Sending Unsolicited Nudes

	Females (*n* = 54)		Males (*n* = 24)	
Result	*n*	%	*n*	%
Getting blocked	4	7.4	11	45.8
Being insulted	5	9.3	12	50.0
Being publicly shamed/humiliated	2	3.7	4	16.7
Rejection	0	0.0	5	20.8
Being privately shamed/humiliated	5	9.3	7	29.2
Getting reported to a form of authority, e.g. police, employer, church, teacher	2	3.7	3	12.5

3.3.1.5 Word Associations

Part 2 of the survey included a section where participants were asked to tick which words they associated with the term *dick pics*. Over half of female respondents considered *dick pics* 'gross', whereas only a third of men shared this attitude (see table 3.13). Regardless of gender or experience with *dick pics*, the percentages for 'pleasing' are higher than those for 'threatening' in all four columns.

Table 3.13

Words That Participants Associated With the Term 'Dick Pic'

	Females				Males			
	All (*n* = 223)		Recipients of unsolicited *dick pics* (*n* = 133)		All (*n* = 177)		Senders of unsolicited *dick pics* (*n* = 25)	
Word	*n*	%	*n*	%	*n*	%	*n*	%
Gross	122	**54.7**	78	**58.6**	60	**33.9**	10	40.0
Funny	65	29.1	44	33.1	53	29.9	16	**64.0**
Boring	47	21.1	39	29.3	21	11.9	4	16.0
Stupid	95	**42.6**	61	**45.9**	68	**38.4**	1	4.0
Sexy	43	19.3	28	21.1	44	24.9	13	**52.0**
Sad	44	19.7	32	24.1	36	20.3	4	16.0
Distressing	43	19.3	27	20.3	15	8.5	3	12.0
Threatening	29	13.0	17	12.8	12	6.8	2	8.0
Pleasing	35	15.7	22	16.5	22	12.4	4	16.0

Note. Bold numbers indicate the two highest percentages per column.

3.3.2 Inferential Statistics

In this section I will present the inferential statistical methods used to analyse the survey data.

3.3.2.1 Basic Analyses

69% of the sample had taken a nude image of themselves after the age of eighteen. According to a chi-square test for independence there is a significant relationship between gender and taking nudes ($n = 384$, $\chi^2 = 6.12$, df $= 1$, $p = 0.013$, *phi* $= 0.13$).

There were no significant gender differences between women (89.4%) and men (87.6 %) regarding the sending of nude images in general, i.e. not unsolicited (n $= 265$, $\chi^2 = 0.059$, df $= 1$, p $= 0.808$, *phi* $= -0.027$). Of those who said they had taken a sexual image of themselves before, 67.8% had previously taken a photo of their genitals ($n = 265$). Upon differentiating the data by gender, 55% of women ($n = 88$) and 86.7% of men ($n = 91$) had taken such a photo. There was a statistically significant association between gender and taking photos of one's genitals ($n = 265$, $\chi^2 = 27.57$, df $= 1$, $p = 0.000$, *phi* $= 0.331$). As a *phi* value of 0.331 indicates a medium effect size (Cohen, 1988), this suggests that men are somewhat more likely to send images of their genitals.

Table 3.14

The Content of Varying Types of Sexual Image, Divided by Body Part (%)

Body part	Self-taken sexual image			Unsolicited sexual image sent			Unsolicited sexual image received		
	Females	Males	Entire sample	Females	Males	Entire sample	Females	Males	Entire sample
	(n = 160)	(n = 105)	(n = 265)	(n = 54)	(n = 24)	(n = 78)	(n = 132)	(n = 61)	(n = 193)
Breasts/Torso	**93.8**	55.2	**78.9**	27.8	8.3	21.3	3.8	8.2	5.1
Buttocks	56.9	37.1	49.6	**42.6**	**33.3**	**38.8**	**11.4**	**11.5**	**11.2**
Genitals	55.0	**86.7**	67.8	0.0	4.2	1.3	4.5	3.3	4.1

Note. Percentages for the three image categories were calculated based on who responded 'Yes' to having taken a sexual image, having sent a UN or having received a UN, respectively. Numbers in bold indicate the highest percentages per category.

Table 3.15

Type of Nude Image Sent by Participants Who Had Taken Nude Images of Themselves

Type of nude image	Entire sample (*n* = 270)		Males (*n* = 105)		Females (*n* = 160)	
	n	%	*n*	%	*n*	%
Any	240	88.9	92	87.6	143	89.4
Explicitly Requested	156	57.8	63	60.0	89	55.6
Unsolicited	75	28.6	22	21.0	53	33.8

A higher percentage of women (33.1%) who had taken a nude image reported sending <u>unsolicited</u> nudes than men (21%). This difference is statistically significant ($n = 262$, $\chi^2 = 4.44$, df $= 1$, $p = 0.035$, *phi* $= 0.139$), with a small effect size (Cohen, 1988).

There was no significant association between identifying as a feminist and the sending of UNs ($n = 375$, $\chi^2 = 2.72$, df $= 1$, $p = 0.099$, *phi* $= -0.092$).

There was a significant relationship between using dating apps and receiving unwanted nude images ($n = 388$, $\chi^2 = 7.31$, df $= 1$, $p = 0.007$, *phi* $= 0.143$). Despite the small effect size (Cohen, 1988) this indicates that people who use dating apps are significantly more likely to receive an unsolicited sexual image.

A significant association was found between age groups and sending UNs ($n = 376$, $\chi^2 = 6.73$, df $= 2$, $p = 0.035$, *Cramer's V* $= 0.134$). A *Cramer's V* value of 0.134 for a two (gender) by three (age groups) correlation matrix indicates a small to medium effect size (Cohen, 1988).

3.3.2.1.1 Attitudes towards sending nudes

In *Part 2*, participants were asked which words they associate with *dick pics*. These words were either positive or negative in nature. Using this data, a mean Positive Word Score (PWS) and a mean Negative Word Score (NWS) were calculated. The relationship between these word scores and ATSN was investigated using Spearman Rank Order Correlation. There was a strong, positive correlation between PWS and Liberal ATSN (n = 359, *rho* = 0.52, p < 0.0001), a medium, positive correlation between PWS and Accepting ATSN (n = 359, *rho* = 0.44, p < 0.0001), a small, negative correlation between NWS and Liberal ATSN (n = 359, *rho* = -0.29, p < 0.0001), a medium, negative correlation between NWS and Accepting ATSN (n = 359, *rho* = -0.37, p < 0.0001) and finally, a small, positive correlation between NWS and Critical/Legal ATSN (n = 359, *rho* = 0.25, p < 0.0001). Data was initially analysed disaggregated by gender. However, since there were no significant differences between males and females on these measures, results are presented for the entire sample.

A Mann-Whitney U test revealed a significant difference between the NWS in men (*Md* = 1.67, n = 175) and women (*Md* = 3.33, n = 222), U = 15316, z = -3.73, p = 0.000, r = 0.19. According to Cohen (1988), however, this significance has only a small-medium effect. This test suggests that women are significantly more likely to associate negative words with *dick pics*. The same was not found for the PWS, where there were no significant differences between scores for both men (*Md* = 0.00, n = 175) and women (*Md* = 0.00, n = 222), U = 20596, z = 1.15, p = 0.250.

3.3.2.2 Binary Logistic Regression

Binary logistic regression was performed to identify the key predictors of sending unsolicited sexual images in men and women (see tables 3.16 and 3.17). No assumptions of multicollinearity were violated. Since many of the central hypotheses of this project focus on how gender influences behavioural differences when sending nude images online, independent logistic regression models were created for men and women, respectively. Models 1a and 1b describe the influence of Dark Triad traits on sending UNs. Models 2a and 2b assess the impact of self-rated Mate Value, whereas models 3a and 3b highlight the role of ATSN in regards to the sending of unsolicited graphic images. Models 4a and 4b are additive models of all predictors found to be significant in models 1a, 1b, 2a, 2b, 3a and 3b. Since Model 4a is statistically significant and requires no further alteration, it represents the final model to predict the sending of UNs in men (see table 3.16). As some alterations to Model 4b were required to improve fit and logic, Model 5 represents the final model to predict the sending of UNs in women (see table 3.17).

Model 1 investigated the relationship between sending UNs and Dark Triad personality traits. Machiavellianism, Narcissism and Psychopathy all had tolerance values above 0.5. Dark Triad scores were found to have a significant impact on the sending of unsolicited graphic images in men and women. In men, higher Psychopathy scores significantly increased the likelihood of sending unsolicited nude images (Model 1a: $n = 169$, $\chi^2 = 10.81$, df $= 3$, $p < 0.0005$). High scores for Narcissism significantly predicted the sending of UNs in women (Model 1b: $n = 212$, $\chi^2 = 17.21$, df $= 3$, $p < 0.001$).

Model 2 investigated the impact of Mate Value on the sending of UNs. Self-rated mate value significantly increased the likelihood of sending unsolicited nude images in men (Model 2a: $n = 163$, $\chi^2 = 11.89$, df $= 1$, $p < 0.001$). Mate value also significantly predicted the sending of UNs in women (Model 2b: $n = 201$, $\chi^2 = 6.95$, df $= 1$, $p < 0.008$).

Model 3 looked at the relationship between ATSN and sending unsolicited sexual images. An *Accepting ATSN* significantly predicted sending unsolicited nude images in men (Model 3a: $n = 159$, $\chi^2 = 33.71$, df $= 3$, $p < 0.001$). However, Hosmer-Lemeshow Goodness of Fit for Model 3a was 0.039, indicating poor fit. A *Liberal ATSN* significantly predicted the sending of UNs in women (Model 3b: $n = 196$, $\chi^2 = 38.29$, df $= 3$, $p < 0.001$).

Table 3.16

Summary of Logistic Regression Analysis Predicting UN Sending in Male Participants

Variable	β	SE	Wald	OR	95% CI Lower	Upper	P
Model 1a							
Psychopathy	1.27	.50	6.45	3.56	1.34	9.47	.011
Machiavellianism	.63	.47	1.81	1.88	.75	4.74	NS
Narcissism	.17	.41	.17	1.19	.53	2.67	NS
Constant	-7.97	1.55	26.33	.00			
Model 2a							
Mate value	.79	.26	9.51	2.21	1.34	3.65	.002
Constant	- 5.86	1.40	17.43	.00			
Model 3a							
Liberal ATSN	- .40	.38	1.13	.67	.32	1.40	NS
Accepting ATSN	1.74	.38	21.37	5.70	2.73	11.93	.000
Critical/Legal ATSN	- .07	.33	.05	.93	.48	1.79	NS
Constant	- 5.10	1.52	11.24	.01			
Model 4a							
Psychopathy	.97	.46	4.46	2.64	1.07	6.51	.035
Mate value	.64	.32	3.96	1.89	1.01	3.53	.047
Accepting ATSN	.99	.35	8.21	2.70	1.37	5.33	.004
Constant	- 10.54	2.02	27.20	.00			

Note. P = significance ≤ 0.05, CI = confidence interval for odds ratio (*OR*).

Table 3.17

Summary of Logistic Regression Analysis Predicting UN Sending in Female Participants

	β	SE	Wald	OR	95% CI Lower	Upper	P	
Model 1b								
Psychopathy	.34	.31	1.23	1.41	.77	2.59	NS	
Machiavellianism	.00	.28	.00	1.00	.58	1.74	NS	
Narcissism	.89	.30	8.55	2.43	1.34	4.41	.003	
Constant	- 4.41	.94	21.86	.01				
Model 2b								
Mate value	.39	.16	6.15	1.48	1.09	2.02	.013	
Constant	- 2.98	.82	13.10	.05				
Model 3b								
Liberal ATSN	.83	.27	9.29	2.30	1.35	3.92	.002	
Accepting ATSN	.63	.25	6.41	1.87	1.15	3.04	.011	
Critical/Legal ATSN	- .35	.32	1.20	.71	.38	1.32	NS	
Constant	- 4.10	1.46	7.88	.02				
Model 4b								
Narcissism	.65	.33	3.85	1.91	1.00	3.64	.050	
Mate value	.07	.19	.12	1.07	.74	1.56	NS	
Liberal ATSN	.86	.28	9.54	2.36	1.37	4.07	.002	
Accepting ATSN	.50	.25	3.91	1.65	1.01	2.72	.048	*
Constant	- 7.32	1.38	28.34	.00				
Model 5								
Narcissism	.81	.29	7.51	2.24	1.26	3.98	.006	
Liberal ATSN	1.11	.26	18.87	3.04	1.84	5.02	.000	
Constant	- 7.15	1.28	31.09	.00				

Note. P = significance ≤ 0.05, CI = confidence interval for odds ratio (*OR*). * Excluded in final model (5b) despite significance; justified on p. 80.

Model 4 includes all significant items from models 1, 2 and 3. The final model for males identified Psychopathy, and *Accepting ATSN* and self-rated Mate Value as significant predictors of sending unsolicited nude images (Model 4a: $n = 159$, $\chi^2 = 43.73$, df = 3, $p < 0.0005$). Model 4a explained between 24% (Cox and Snell R²) and 42.7% (Nagelkerke R²) of the variance in sending unsolicited nude images.

When entering all significant items into the model (narcissism, mate value, *Accepting* ATSN and *Liberal ATSN*), self-rated Mate Value was not statistically significant ($p < 0.713$), so it was removed from the final model. Although *Accepting ATSN* was significant in Model 4b, it was excluded from the final model. This decision was made due to the fact that the significance was 0.048 in Model 4b, i.e. almost at the cut-off point of 0.05. Logically, and based on significance, *Liberal ATSN* fits better into the model and, for adequate comparison, there should only be one ATSN score in the additive model. Narcissism and a *Liberal ATSN* were identified as the main predictors of sending unsolicited nude images in women (Model 5: n = 196, $\chi^2 = 38.84$, df = 2, p < 0.0005). Model 5 explained between 18% (Cox and Snell R²) and 26.2% (Nagelkerke R²) of the variance in sending unsolicited nude images.

The odds of sending unsolicited nudes are therefore significantly predicted by Psychopathy, Mate Value and *Accepting ATSN* in males (see figure 6), whereas Narcissism and *Liberal ATSN* increase the odds of sending UNs in females (see figure 7).
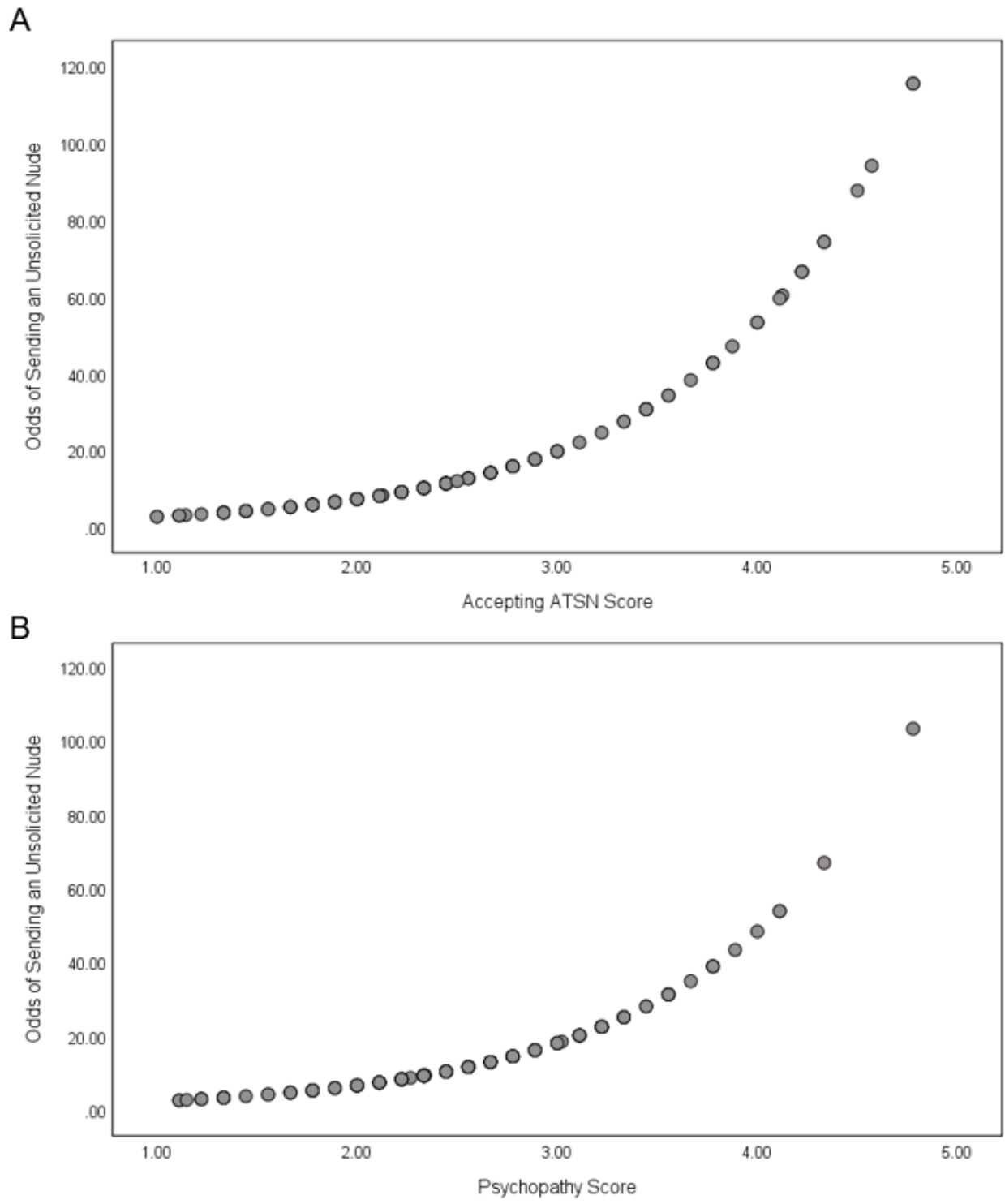
Figure 7. Odds of males sending an unsolicited nude image depending on scores for Accepting ATSN (A) and Psychopathy (B). Odds are calculated by the following method: log odds = (β x predictor score), odds = $\exp^{(\log odds)}$.
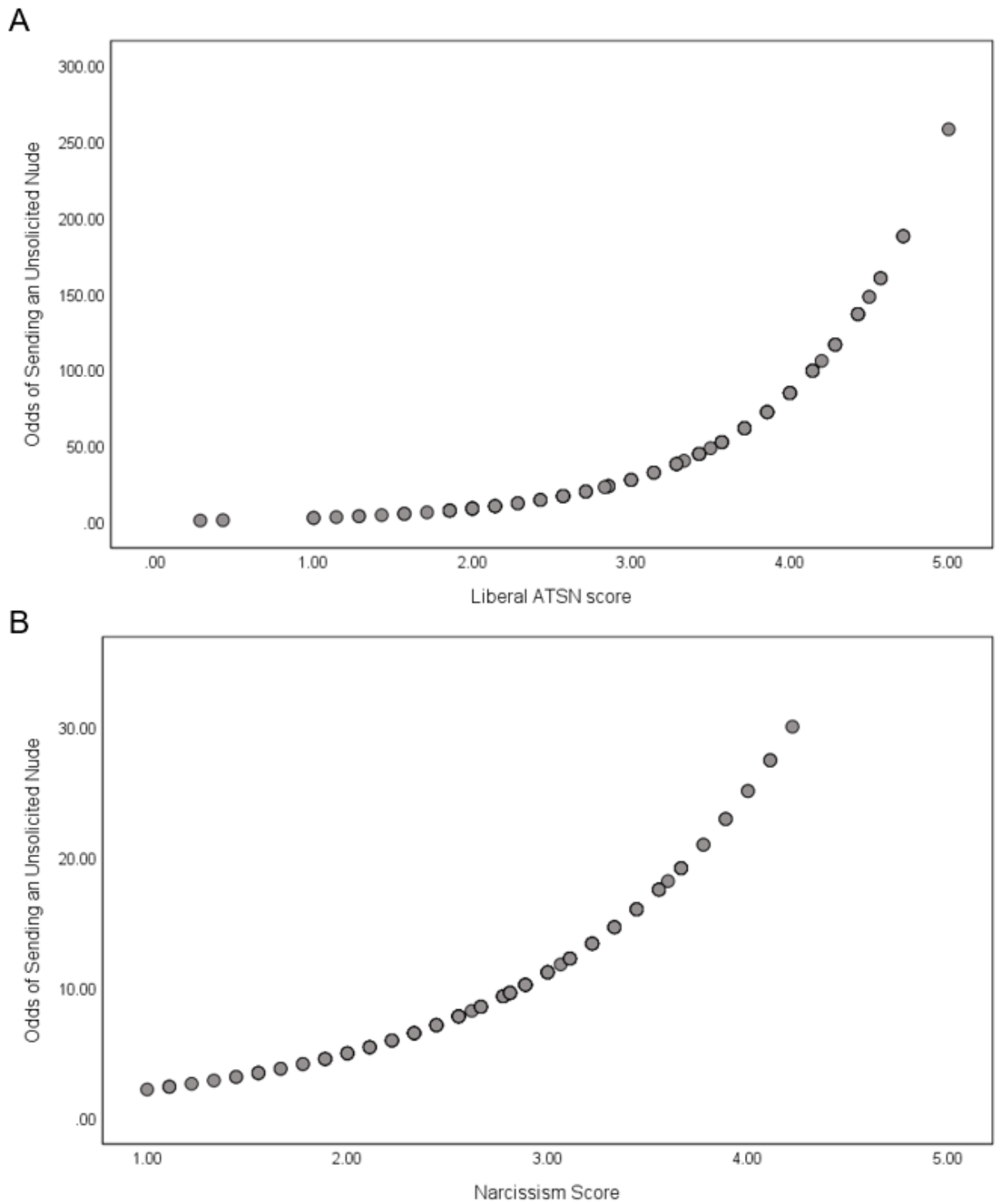
Figure 8. Odds of females sending an unsolicited nude image depending on scores for Liberal ATSN (A) and Narcissism (B). Odds are calculated by the following method: log odds = (β x predictor score), odds = exp$^{(log\ odds)}$.

3.4 DISCUSSION

3.4.1 Sample

The sample for this study was largely white, educated, industrialised, rich and democratic (WEIRD; Heinrich, Heine & Norenzayan, 2010), with countries from the Global South (except Australia) being eliminated from analysis. This decision was made due to the small number of participants from Global South countries (0.8% of the sample). It would be impossible to make any inferences about the differences between countries if they're not adequately represented. Additionally, internet penetration in Global South countries does not yet mirror those in the Global North (Graham, Hale & Stephens, 2012). Therefore, by limiting analysis to countries with similar cultural, economic and social structures, the data is less likely to be skewed due to these factors. The majority of the sample identified as either male or female, prompting the exclusion of participants selecting '*Other*' as their gender identity (0.7%) from further analysis for similar reasons as above. It is not possible to gain any valuable insight into the sexting behaviours of trans and non-binary persons if they constitute less than one percent of the sample. The largest age group represented was 25-39 (56.3%). This group largely reflects the Millennial generation, which is characterised by being the first generation to grow up with widely accessible internet technologies. As this study investigates a purely internet-enabled behaviour, this young, tech-savvy sample is an ideal match for the research question. The remaining age groups were still represented to a large enough extent that it permits a comparison of the sexting behaviours across varying ages. The roughly equal gender split of the sample allows for valid comparison between males and females. A vast majority of the sample identified as heterosexual (76.4%), while over 90% of participants had sexual contact with a gender different to their own. As public discourse around UDPs is very much focused on heterosexual interactions, this is an ideal distribution.

3.4.2 App Usage

The main non-dating application used for sexting is Snapchat, which is an image-based communication tool. This may imply that sexting is largely done through images, rather than text. Results showed a significant association between dating app usage and the receipt of unwanted sexual images. This suggests that using dating apps makes individuals more likely to receive images they did not request. It also implies that the perpetration of such behaviours is largely limited to the online spaces of dating apps. This

may be due to a misinterpretation of what the space is for or a deliberate targeting of 'vulnerable' recipients, as a commonly seen thread on *Bye Felipe* follows the script of 'if you are on this app you must be desperate' (Tweten, 2018). Some dating apps, such as *Tinder*, however, do not support the sending of images via their app. Therefore it is not necessarily guaranteed that an unsolicited image is received on a dating app, but rather that having an online dating profile increases one's likelihood of receiving a UN, regardless of the platform via which the image is sent. The potential reasons for this are varied. This result supports the theory that the sending of UNs is a short-term mating strategy, as dating apps are, by design, spaces provided for the sole purpose of meeting potential romantic or sexual partners. As previously mentioned, men are said to frequently send UDPs, in lieu of a greeting, as the first ever interaction on a dating app (Ley, 2016). This assertion is supported by the above mentioned result.

3.4.3 Sexting

According to our survey, a majority (69.2%) of the sample had taken a nude image of themselves. This may indicate that the sample was sexually liberated, as well as that this behaviour is commonplace these days. There were no significant gender differences in the sending of nude images in general, with only 7.4% of the sample claiming they had never sent a nude image that they'd taken. This suggests that the sending of nude images is not considered out of the ordinary, but rather a socially acceptable aspect of modern sexuality. This appears to be in line with previous findings by Powell, Henry & Flynn (2018). In contrast to these earlier findings, however, 88.9% of people who had taken a nude image of themselves (59.6% of the entire sample) reported sending it, whereas only 45.6% of their sample reported sending a nude image (Powell, Henry & Flynn, 2018, p. 308). This 14 percentage point increase could either be attributed to sampling differences or a further increase in acceptance and prevalence of sending nude images in the past year. Additionally, while their study found men to be significantly more likely to send nude images (Powell, Henry & Flynn, 2018, p. 308), the results presented here show no significant gender differences among nude image senders. Over a third of those surveyed said they would send a photo of their genitals if it was requested by their partner (see table 3.8).

20.7% of the sample admitted to sending an unsolicited nude image. Contrary to the initial hypothesis, the survey results showed that women were significantly more likely to send an unsolicited nude image. An important distinction, however, is the type of image sent. While women's images most often featured breasts or buttocks, men were significantly more likely to take photos of their genitals. There is arguably a notable difference between the effects of exposure to a primary sex characteristic (i.e. genitals) and secondary sex characteristics (i.e. breasts, buttocks). While in Western society either are usually covered up by clothing and only visible some of the time, there is an added level of privacy associated with the visibility of genitals (Cover, 2003). The penis, especially, has been highly symbolic in most cultures for all of history (Oswald et al., 2019). Not only does it represent virility and, as mentioned previously, can signal health and wellbeing, its' role in human reproduction as the penetrative part conceptualises the penis as a symbol of male dominance over females in feminist literature (Ortner, 1975). For most categories (e.g. female/solicited, female/unsolicited, male/solicited) the recipients of self-taken sexual images were the sender's long-term romantic partner (see table 3.7). The only category where this was not the case, however, was males sending an unsolicited nude image. According to this sample, the largest group of recipients of UDPs sent by men are acquaintances (table 3.7), as 11.4% of men who had taken a nude image before and 50% of men who admitted to sending a UDP sent unsolicited nude images to acquaintances.

Half of all participants had received an unsolicited graphic image in their lifetime. This highlights the prevalence of the behaviour and the magnitude of the issue. If 1 in 2 people receive an unwanted sexual image, it warrants attention from governing bodies.

3.4.4 Attitudes towards Nudes

The results show that males on average reported more liberal and accepting attitudes, whereas women aligned more with the critical/legal factor of the ATSN scale. This difference in attitudes is also accompanied by a difference in behaviours. The female sample had mainly critical attitudes towards nudes, whereas female senders of unsolicited nudes had liberal attitudes.

3.4.5 Personality Traits

Using binary logistic regression, the predictive models for the sending of unsolicited nude images revealed a key difference in regards to the gender of the sender. Depending on the gender, a different underlying Dark Triad trait was found to predict the sending of UNs. In male senders of UDPs, subclinical psychopathy was most prominent, whereas in female UN senders it was subclinical narcissism. This distinction may have significant consequences, due to the psychosocial differences between narcissistic and psychopathic personalities. Of the three Dark Triad traits, subclinical psychopathy is frequently viewed as the most serious and undesirable (Rauthmann, 2012), whereas narcissism is judged as the only trait out of the three to have some positive and redeemable qualities (Rauthmann & Kolar, 2012). Recklessness and violence have been established as characteristics of psychopathy (Hare, 1999). Psychopathic tendencies are further described as manipulative and egocentric, with an inability to balance personal needs and social norms (Wai & Tiliopoulos, 2012). Dark Triad traits are generally linked to exploitive sexual strategies (Jonason & Webster, 2009) and manipulative social behaviour (Jonason & Davis, 2018). Psychopathy specifically is associated with rape-enabling attitudes (Jonason, Girgis & Milne-Home, 2017) and 'positive attitudes toward sexually predatory behaviours' (O'Connell & Marcus, 2016), as well as a likelihood to fantasize about sexual domination (Baughman et al., 2014). There is, however, evidence to suggest that convicted rapists score lower for psychopathy than non-sexual offenders (Fernandez & Marshall, 2003). Narcissism, on the other hand, is more frequently linked to a desire for validation, rather than domination (Baughman et al., 2014).

3.4.6 Consequences for Sending Unsolicited Nudes

According to psychological theory, the consequences of our actions play a key role in determining future behaviour, as reinforcement encourages a desired behaviour either through positive or negative outcomes (Skinner, 1958). As mentioned previously, isolated depictions of penises do not increase attraction to a male (Mautz et al., 2013), which would indicate that the type of UNs that men send, i.e. images of their genitals, do not generally elicit positive responses from recipients. Indeed, the data showed that men were far more likely to experience negative outcomes when sending UDPs, compared to women, who reported few negative reactions to UNs they'd sent. In regards to positive results, the data suggests that, contrary to my hypotheses, men frequently experience sex or dating after sending a UDP. Women who send unsolicited nudes also reported similar

instances of positive outcomes. The negative consequences, however, showed prominent gender differences. While none of the categories displays a percentage above 10% for women, a large proportion of the male sample experienced being insulted (50%), getting blocked (46%) or being privately shamed (29%) as a result of sending a UDP. This stark difference highlights the way nude images are perceived in Western society, depending on the body part shown and the gender of the sender. Insomuch as breasts and buttocks are generally considered sexually stimulating, penises can have darker and more violent connotations. While women are more likely than men to encounter sexting or a relationship upon sending a UN, men are more likely than women to get a date or sex out of the sending of such an image. This also highlights a difference in the way sexual arousal functions in male and female bodies. Males are considered to be easily aroused by visual cues, regardless of context, whereas females tend to require a slower build-up of multisensory arousal cues. Male arousal can therefore be framed as unconditional, whereas female arousal is conditional upon the right circumstances.

Women seem to have largely positive results from sending unsolicited nudes, and virtually no negative consequences. This positive reinforcement may predict future behaviour and therefore indicate that sending unsolicited nudes may be a successful short-term mating strategy for women and a way for narcissistic women to achieve the validation they seek. For men, a tendency towards psychopathy is linked to a preference for short-term mating and a higher sex drive. The calculating nature of the trait may prevent any emotional response to negative outcomes. If a date or sex is the goal of sending a UDP, this is achievable enough times to encourage the behaviour regardless of potential negative outcomes. According to the results above, the sending of unsolicited graphic images may represent an adequate short-term mating strategy, albeit the strategy's success rate varies based on gender.

3.4.7   Impact and Implications

This project shows that both the predictors for the sending of nudes, as well as the attitudes towards nude images are differentiated by gender. This impacts how UN-sending behaviours are perceived by individuals based on the recipient's gender.

The superficial and appearance-based nature of online dating unsurprisingly attracts people with egocentric personality traits, whose intention – whether consciously or subconsciously – may be more to satisfy their personal needs of dominance (in men) and

receiving validation (in women), rather than to make meaningful romantic connections. While this may not come as a revelation to many, this study is the first of its kind to provide empirical evidence to confirm societal assumptions of the personality of UN senders.

> *Because of their interest in their own genitalia and their arousal upon seeing the genitalia of other persons, males quite generally believe that other persons would be aroused by seeing their genitalia. This seems to be the prime factor which leads many males to exhibit their genitalia to their wives, to other female partners, and to male partners in homosexual relationships. It is difficult for most males to comprehend that females are not aroused by seeing male genitalia (Kinsey et al., 1953, p. 657).*

In accordance with previous findings (March & Wagstaff, 2017), this project identified an association between the sending of unsolicited nude images, being male and self-rated mate-value. Unlike the aforementioned study, however, a relationship between the sending of UNs and Machiavellianism was not found. Instead, there appear to be links between psychopathy and the sending of UNs in males. Psychopathy and Machiavellianism both share a manipulative nature and a tendency to act in one's self interest. Therefore, since the previous and the present study used different measures for dark triad traits, it may be possible that in both cases the egocentric, manipulative nature were measured, but that the varying methodologies resulted in these different outcomes.

3.4.7.1 A Sender's Profile

In order to address the rising reports of sexual harassment online, it is important to construct a psychological profile of a typical sender of unsolicited sexual images. In doing so, preventative measures can be targeted at the people who are most likely to commit such offences. Based on the results of this project, we have established a number of key traits that may be characteristic of a sender of unsolicited self-taken sexual images.

3.4.7.1.1 Demographics

Despite common claims that men are the main senders of unsolicited sexual images (Ley, 2016), our data shows the opposite to be true. The majority of participants who admitted to sending an unsolicited sexual image are female, however, the content of those images varies considerably between genders. While women are more likely to send images of

their breasts or buttocks (see table 3.14), men are significantly more likely to send unsolicited images of their genitals (see table 3.14).

3.4.7.1.2 Attitudes towards Sending Nudes

Male senders of unsolicited nude images were more likely to be accepting of nude images. Female senders had higher scores for liberal attitudes.

3.4.7.1.3 Summary Profiles

As established previously, there are notable differences between male and female senders of unsolicited graphic images. The instances where these differences are statistically significant are highlighted in table 3.18. This is a summary of the traits found to make up the profile of a typical, average sender of unsolicited graphic images in this sample.

Table 3.18

Profile of the Average Sender of Unsolicited Nudes

Characteristic	Male senders	Female senders
Self-rated mate value	High	*Not significant*
Dark Triad trait	Psychopathy	Narcissism
ATSN	Accepting	Liberal
Body part	Genitals	Breasts, buttocks

3.4.7.2 Risks of Gateway Perpetration

Sexual violence in an offline setting bears certain risks for the perpetrator, as well as the victim. Sexual harassment could potentially result in an altercation, whereas rape can cause the contraction of STIs. Online sexual harassment, on the other hand, carries a comparatively low physical risk to the perpetrator. While men are more likely to face negative consequences from sending unsolicited nudes, the personality traits we found to be associated with this (i.e. psychopathy) may mediate any sense of shame or remorse (Wai & Tiliopoulos, 2012). If, for example, a psychopathic rapist contracts an STI, their somewhat egocentric nature would make them feel worse about their personal harm than the harm they caused. However, if a UN sender gets blocked, rejected, shamed or otherwise, their lack of affective empathy may leave them emotionally unscathed.

Since there is previous evidence to suggest a relationship between psychopathy and *cybertrolling* in men (Sest & March, 2017) and this research identified an association between psychopathy and the sending of UDPs in men, there may be a broader link between psychopathic men and harmful online behaviours. If this is the case, women may be at increased levels of danger online. While psychopathy is linked to aggression (Stenason & Vernon, 2016) and violence, no such associations were found with narcissism (Pailing, Boon & Egan, 2014). This suggests that male senders of unsolicited nude images may present more of a threat to the recipients than female senders. Consequently, the matters of men sending unsolicited images of their genitals and women sending unsolicited images of their breasts or buttocks should be viewed distinctly and treated as different. Potential implications of this might be stricter moderation of online spaces, and more legal consequences for the sending of UDPs, since this may, in time, lead to additional harmful behaviour.

As the online space may be considered at least partially public, this falls under the remit of the 2018 parliamentary paper (Parliament. House of Commons, 2018). It is the government's responsibility to ensure safety in public spaces for all people. Therefore, if women are at a greater risk of increasing levels of sexual violence from a sender of a UDP, this needs to be considered when drafting new legislation.

3.4.7.3   Actions to Be Taken

Now that gender-based differences in the sending of UNs have been established, we need to collectively re-evaluate how to manage the two separately. If male sending of unsolicited images of their genitals has darker motives there need to be more consequences. The UK government has claimed on many occasions to be invested in creating safe public spaces for women and girls. Consequently, awareness of the motivations for UN sending, as well as the potential harm they can cause, needs to be raised. Following Marai Larasi's recommendation (Parliament. House of Commons, 2018), a public campaign to inform people of the consequences of sending unwanted graphic images is paramount. This needs to be accompanied by large-scale intervention at schools, in order to address the matter early and with the demographic most at risk (YouGov, 2017). Educational materials need to specifically focus on the gender differences in motivation. Additionally, straightforward systems of reporting unwanted sexual images need to be implemented for affected recipients in the case of peer-to-peer harassment in the school setting. A clear procedure should be put in place, which permits

students to enjoy public spaces regardless of gender and feel that inappropriate behaviour will be reprimanded.

As previously mentioned, a number of MPs have demanded the criminalisation of UNs regardless of the sender's motives, based solely on the recipient's lack of consent (Marsh, 2018). While this is arguably a commendable request, now that there is concrete evidence to suggest that senders of UNs score higher for certain dark personality traits, this may serve as additional persuasion for the government to act swiftly. This should include a public campaign (Parliament. House of Commons, 2018), preventative educational measures as part of the new RSHE curriculum and legal repercussions for senders of unwanted explicit images. In this scenario it is vital to place the onus on senders, rather than attempting to make recipients responsible for another person's action. It would also be useful, however, to improve the recipient's options in terms of reporting.

3.4.8 Limitations

3.4.8.1 Sample Limitations

The sample of this study was purposefully limited to culturally and economically similar countries to mediate cultural differences. Replicating the same study using a sample from Asia or the Global South sample would be beneficial for comparative purposes.

Opportunity sampling has its disadvantages by default. It does not permit perfect randomisation or case-matching due to the uncertainty of who will be sampled. It is possible to somewhat prevent bias, for example by consciously advertising to various different demographics, which is a method we employed for this project. Choosing *MTurk* as one of the recruitment platforms comes with some potential limitations. Paying $0.30 for a 15-minute survey would equate to an hourly wage of $1.20 (£0.95). This begs the question of why a worker would select this survey. There is perhaps an increased risk of low response quality. However, *MTurk* has become an established and accepted form of sampling in many fields of research. Using it allowed us to significantly increase the sample size, despite a small budget. Additionally, *MTurk* provides a viable alternative to using university students as study participants, which has become a stereotypical Psychology sample. Since there is no concrete evidence to suggest the practice of sending nude images is especially common amongst students, it would have been potentially problematic to limit the sample to a current university population. The common thread that ties together what we knew about sending nudes prior to this project was the use of

technology and social media. It therefore seemed prudent to sample a population which is already at least somewhat tech-savvy: *MTurk* workers.

3.4.8.1.1 Differences in Participant Knowledge

The international shortcomings in the field of sex education were recognisable in the sample population. Participants struggled to define their sexual orientation. This was evident both from the high number of incorrect answer and from personal feedback. The sensitive nature of the question may have also caused some embarrassment, leading to joke answers. This potentially confounding factor was overcome by cross-referencing the responses given to the questions 'What is your gender?', 'Do you have sex with men?' and 'Do you have sex with women?'. This time-intensive procedure allowed us to accurately group participant responses, without having to guess some of the less obvious answers. This 'safety measure' also meant that two individuals giving the exact same answer for 'What is your sexual orientation?' (e.g. 'female') could be sorted into different sexuality groups based on their answers to the previously mentioned questions (see table 3.19). Through private conversation it was uncovered that another participant did not know the meaning of 'petting' in a sexual context and therefore struggled to answer one of the questions in the Eysenck Prudishness inventory. This type of feedback has been a helpful reminder to assume no previous knowledge on the participant's part, especially

Table 3.19

Responses to the Question: 'What Is Your Sexual Orientation?'

Responses	Coded as
straight	Heterosexual
WOMEN	Heterosexual
male	Heterosexual
Bi	Polysexual
Fluid	Polysexual
Open minded	Heterosexual
STRAIGHTLY	Heterosexual
lesbian	Homosexual
Not GAY	Heterosexual
Female	Heterosexual
FEMALE	Polysexual
Heterogeneous	Heterosexual

Note. Responses are presented exactly as submitted by participants.

when the sample population is so broad. It may therefore be of use for further research to simplify the language in the survey even further and offer explanations for terms that may cause confusion. Additionally, by trialling future surveys in small pilot studies, some of the less obvious points of confusion may be uncovered at an early stage.

3.4.8.1.2 Reading Comprehension

Survey participants notoriously skip through text without reading the instructions properly (Smith et al., 2016). When asked to provide a unique Participant ID to allow participants to withdraw their data without compromising their anonymity, some failed to complete the task according to instructions. The survey text read "Please enter the ID in the following format: Your day of birth, the last letter of your surname, followed by the house number of your childhood home. Example 1: John Smith, born 05/02/1992, lived at 4 Privet Drive. Personal ID: 05H4" (see appendix B for layout and full text). As a result, some participants entered their full name and address, instead of the 4 to 6 digit code required. Some other participants entered what appeared to be internet usernames, which were entirely unrelated to the instructions. In future research, it may be recommended to use the survey platform's coding abilities to limit input into the text box to 6 characters. An additional bold warning to not enter any personally identifying information may also prevent some disclosure.

3.4.9 Recommendations for future research

As with most research, sample limitations are almost inevitable. As such, it would be beneficial to replicate the study using, firstly, a larger sample and, secondly, different types of samples. There are a number of approaches that could be considered. Initially, a larger UK and US sample may be used to ascertain the generalisability of the results. Later on, it may be prudent to conduct similar research on a less WEIRD sample, i.e. studying Global South countries. The relationship between technologically-facilitated sexual behaviour and emerging technologies in Global South countries has, to my knowledge, not been investigated to date.

Additionally, we identified a potential relationship between the sending of unsolicited graphic images, empathy and risk-taking behaviours. Although this was not directly measured, higher psychopathy scores are associated with lower affective empathy and increased risk-taking behaviour (Wai & Tiliopoulos, 2012) and the results indicated an association between sending UDPs and psychopathy. Future surveys might therefore

include the Toronto Alexithymia Scale (Bagby, Parker & Taylor, 1994) to measure empathy deficits and risk-taking measures to confirm this relationship.

As for the Attitudes Towards Sending Nudes Scale, there are a number of potential uses for it in future research. Its contemporary and engaging format could provide beneficial insights if included in research on digital sexual harassment, paraphilias, modern short-term mating strategies, sexting, adolescent sexual behaviour and online gender dynamics, among others.

4 CONCLUSION

The field of study of the full spectrum of technology-facilitated sexual behaviour, including its' consensual and non-consensual, desirable and harassing components, is still in its' infancy, with many of the interactions between personality and online sexuality still to be explored. Within the scope of this thesis, however, I have successfully established the prevalence of a number of behaviours, including the sending of requested nude images, UNs and UDPs. Contrary to my original hypothesis, the results identified more women to be sending unsolicited sexual images than men. The content of such images is significantly predicted by the gender of the subject, showing that men's UNs mostly picture their genitals and women's UNs predominantly feature their breasts and buttocks. Based on the high rate of positive results people achieve when sending UNs, it is likely that the behaviour constitutes a modern form of short-term mating strategy. By presenting a potential mate with a sexual image, approval or rejection are granted quickly, due to the impactful message a nude image conveys. In order to uncover the predictors of sending UNs, I constructed several regression models, highlighting the gender differences of unsolicited nude image sending. This led to the discovery that psychopathy, self-rated mate value and an Accepting ATSN predict UDP sending in men, whereas narcissism and a Liberal ATSN predict the sending of UNs in women. I demonstrated that these marked differences have a significant impact on the way unsolicited sexual images should be framed and dealt with depending on the gender of the sender. While female senders can be characterised as sex-positive individuals using their physical features to gain validation, male senders may have darker intentions. Not only is an image of genitals more visceral than one of secondary sex-characteristics – especially the penis as a symbol of male dominance – the implications of high psychopathy scores may warrant some

concern. Due to the trait's association with violence, aggression (Pailing, Boon & Egan, 2014) and a lack of affective empathy (Wai & Tiliopoulos, 2012), there may be an increased risk involved for recipients of unsolicited *dick pics*. For this reason, I recommend a multi-pronged approach to preventing harm from UDPs. Firstly, additional research is needed to fully understand the extent of the threat associated with UDPs. Secondly, these results may be utilised to exert pressure on online dating and social media applications, as well as law-making authorities, to prioritise the safety and wellbeing of women in the online space. Thirdly, preventative work in schools and youth organisations, which serves to instil the importance of approaching peers with respect and maintaining boundaries in young men, may reduce the receipt of unwanted *dick pics* over time.

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APPENDIX

Contents:

University of Kent
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SAC Online Dating Survey 2019
Welcome to this survey of attitudes towards online dating.
Thank you for participating in our survey. Your feedback is very important. This survey will be used to create a scale for measuring attitudes towards certain online dating behaviours.

This project forms part of the researcher's Master's thesis.

Researcher: S. A. Ruhland
Supervisor: Dr. S.E. Johns

This survey has been approved by the School of Anthropology and Conservation's *Research and Ethics Committee*. Any information you provide is completely confidential and only held for the research purposes outlined above.
If you have any questions, please direct your queries to datingsurvey@kent.ac.uk

You will be given a series of short statements and asked to which extent you personally agree or disagree with them. The whole survey should take you no longer than 5 minutes to complete.

At the end of this survey you will be prompted to create your own unique participant code, which can then be used to access your MTurk payment.

 * 1. I confirm that I have read this information page.

  ◯ Yes

 * 2. I consent to taking part in this survey.

  ◯ Yes

* 3. I confirm that I am over 18 years of age

○ Yes

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SAC Online Dating Survey 2019
Term definitions

To avoid confusion, here are the definitions of some of the terms we will be using in the survey.

Sexting: Sending someone sexually explicit messages or photographs online.

Nudes: Photographs someone has taken of their naked body, or parts of it. Most often includes breasts, buttocks or genitals.

Dick pic: A photograph that a person has taken of their penis.

Unsolicited: Not asked for, and sometimes not wanted.

SAC Online Dating Survey 2019

* 4. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Exchanging nudes can be a part of a healthy sex life.	◯	◯	◯	◯	◯
Receiving **unwanted** nudes is an inevitable part of online dating.	◯	◯	◯	◯	◯
You should only send nudes to someone you love.	◯	◯	◯	◯	◯
I prefer to go on a date with someone if I know what their body looks like.	◯	◯	◯	◯	◯
When someone sends you a nude **you didn't ask for** it's fine to share it with friends.	◯	◯	◯	◯	◯

SAC Online Dating Survey 2019

* 5. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
People should face serious consequences for sending **unrequested** nudes.	○	○	○	○	○
Teenagers should be taught about safe sexting practices.	○	○	○	○	○
Society makes too much of a fuss about *dick pics*.	○	○	○	○	○
Online dating would be boring without nudes.	○	○	○	○	○
There is no positive reason for sending nudes.	○	○	○	○	○

SAC Online Dating Survey 2019

* 6. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
If you 'match' on a dating app you should expect to receive nudes.	◯	◯	◯	◯	◯
Images of breasts are less 'shocking' than *dick pics*.	◯	◯	◯	◯	◯
Nude selfies sent by those under the age of 18 should be treated as child pornography.	◯	◯	◯	◯	◯
I feel socially pressured into sexting.	◯	◯	◯	◯	◯
You should only send nudes to someone you trust.	◯	◯	◯	◯	◯

SAC Online Dating Survey 2019

* 7. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Dick pics are hot.	○	○	○	○	○
I only send nudes when I'm comfortable with it.	○	○	○	○	○
There should be better legal protection in place for people who receive **unwanted** images of genitals.	○	○	○	○	○
Women are generally too shy to ask for *dick pics*.	○	○	○	○	○
I feel excited when someone sends me a photo of their **genitals** after I've requested it.	○	○	○	○	○

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SAC Online Dating Survey 2019

* 8. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel excited when someone sends me a photo of their **genitals** that I haven't asked for.	○	○	○	○	○
Dick pics are inherently threatening.	○	○	○	○	○
I love receiving nudes.	○	○	○	○	○
A decent guy wouldn't send a *dick pic* without being asked.	○	○	○	○	○
Senders of **unsolicited** nudes should be publicly shamed.	○	○	○	○	○

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SAC Online Dating Survey 2019

* 9. Please state to what extent you agree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Sending nudes is like foreplay.	○	○	○	○	○
If someone receives an unwanted image they should just block and move on.	○	○	○	○	○
Teenagers should be prevented from sexting.	○	○	○	○	○

SAC Online Dating Survey 2019
Demographics

This information is only collected to separate the data into different groups. Your demographic information will not be used for any other purpose and cannot be traced back to you.

* 10. How old are you?

* 11. What is your gender?

○ Female

○ Male

○ Other (please specify)

* 12. What is your ethnicity?

○ White - British/Irish

○ White - Any other background

○ Black / African / Caribbean / Black British

○ Asian / Asian British

○ Arab

○ Any other ethnic group, including mixed/multiple ethnic backgrounds (please specify)

* 13. Do you identify as straight/heterosexual?

○ Yes

○ No

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SAC Online Dating Survey 2019
Participant Code + Debrief

This research is being conducted to identify current attitudes towards sending and receiving nude images. The resulting data will be used to create a scale, which will then be available for further research.

'Online dating', 'cyber flashing' and 'unsolicited dick pics' are buzz words used at an increasing rate within both traditional and modern media, yet to date there is a distinct lack of academic research available to address these issues empirically. This scale shall offer a starting point for future research conducted on the topic.

If you have any queries or concerns as to the nature of the project or your participation in it, please contact datingsurvey@kent.ac.uk

In order to claim your MTurk payment, you need to create a Unique Completion Code.

To create your code, please enter the following: The current time + your initials.

Example: If it's 12:56pm and your name is John Smith, your Unique Participant Code is 1256JS. If it's 6:03pm and your name is Anna Baker, your Unique Participant Code is 0603AB.

* 14. Please enter your Unique Participant Code here:

Please press 'done' to record your answer.

Welcome to the SAC Survey of Online Dating Behaviours

Thank you for taking the time to participate in this study.

This survey is part of a broader project on the topic of social media and online dating behaviours.

The study is conducted as part of the researcher's Master's thesis within the *School of Anthropology and Conservation* at the University of Kent and has been approved by the School of Anthropology & Conservation Research Ethics Committee.

Once you reach the end of this survey, you will be thoroughly debriefed and given further information in regards to the research objectives.

Researcher responsible for this project S.A. Ruhland
Main supervisor: Dr. S.E. Johns

All of your answers are entirely confidential. Because we won't collect any personally identifying data, you will remain anonymous at all points. Your data will not be used for any purpose other than the research project outlined above.

All questions are optional. You don't <u>have</u> to answer any of them, but we ask that you attempt to respond to all questions, to provide meaningful data.

Please direct any queries or concerns to datingsurvey@kent.ac.uk. If you wish to see a summary of results obtained through this research, you can email us with your request. *However, please note that since all data is analysed anonymously, we will not be able to provide the individual results of your survey.*

The survey should take about 15 minutes to complete. You can save your answers and come back later if you cannot complete the survey in one attempt. All responses have to be submitted before 01/06/2019, when the survey closes.

* I confirm that I have read and understood the consent form.

☐ Yes

* I confirm that I am at least 18 years of age.

◯ Yes

◯ No

* I know that I can contact datingsurvey@kent.ac.uk at any point to ask questions or withdraw my data.

☐ Yes

* I know that I can exit the survey at any point without having to give a reason.

☐ Yes

* I consent to taking part in this study.

☐ Yes

Participant ID

At this stage, we would like you to create a unique participant ID. This means that you have the option to withdraw your data at any point by emailing datingsurvey@kent.ac.uk while still remaining anonymous. *If you wish to contact us you may want to set up a separate email address to increase your privacy.*

This ID will be stored separately from your other responses for security purposes.

Please enter the ID in the following format: Your day of birth, the last letter of your surname, followed by the house number of your childhood home.
Example 1: John Smith, born 05/02/1992, lived at 4 Privet Drive. Personal ID: 05H4
Example 2: Susan Wayne born 16/12/1988, lived at 23 St. Dunstan's Street. Personal ID: 16E23

You may wish to make a note of your personal ID now.

Please create your Unique Participant ID according to the instructions above:

Demographical information is collected for statistical purposes.
This information cannot be used to identify you.

How old are you? *Please enter your age in years.*

What is your gender?

◯ Female

◯ Male

◯ Other (please specify)

What is the highest level of education you have completed?

In what country do you live?

What is your average annual income?

◯ Up to £10,000

◯ Between £10,000 and £14,999

◯ Between £15,000 and £19,999

◯ Between £20,000 and £29,999

◯ Between £30,000 and £39,999

◯ Between £40,000 and £59,999

◯ Between £60,000 and £99,999

◯ Over £100,000

◯ Prefer not to say

Please select the option that most accurately reflects your situation.

	Never	Rarely	Some of the time	Most of the time	All of the time
Do you have sex with men?	◯	◯	◯	◯	◯
Do you have sex with women?	◯	◯	◯	◯	◯

What is your sexual orientation?

[   ]

Do you consider yourself to be a feminist?

◯ Yes

◯ No

◯ Other (please specify)

[   ]

Do you believe in equal rights for all genders?

◯ Yes

◯ No

◯ Other (please specify)

[   ]

Attitudes Towards Online Dating

Part 1 - Apps

Do you use any of the following social networking apps or websites? *Please tick all that apply*

☐ Instagram   ☐ Hinge

☐ Facebook   ☐ Raya

☐ Twitter   ☐ OK Cupid

☐ Tinder   ☐ match.com

☐ Grindr   ☐ Coffee Meets Bagel

☐ Feeld   ☐ Plenty of Fish

☐ Snapchat   ☐ eHarmony

☐ Bumble

☐ Other (please specify)

[   ]

What do you use apps like <u>Facebook & Instagram</u> for?

☐ Keeping in touch with friends/acquaintances   ☐ To find a partner

☐ Meeting new people   ☐ Sexting

☐ Dating   ☐ N/A - I don't use these apps

☐ Casual hook-ups

☐ Other (please specify)

[   ]

What do you use apps like <u>Snapchat</u> for?

☐ Keeping in touch with friends/acquaintances   ☐ To find a partner

☐ Meeting new people   ☐ Sexting

☐ Dating   ☐ N/A - I don't use these apps

☐ Casual hook-ups

☐ Other (please specify)

[   ]

What do you use apps like <u>Tinder</u>, <u>Bumble</u> & <u>Grindr</u> for?

☐ Keeping in touch with friends/acquaintances ☐ To find a partner

☐ Meeting new people ☐ Sexting

☐ Dating ☐ N/A - I don't use these apps

☐ Casual hook-ups

☐ Other (please specify)

[   ]

Part 2 - Sexting

In this section we will ask you a few questions about your personal experience with sexting. To prevent confusion, here are the definitions of some of the terms we will be using.

Sexting: Sending someone sexually explicit messages or photographs online.
Nudes: A photograph someone has taken of their naked body, or parts of it. Most often includes breasts, buttocks or genitals.
Dick pic: A photograph that a person has taken of their penis.
Solicited: Requested, asked for.
Unsolicited: Not asked for, and sometimes not wanted.

Have you ever _taken_ any kind of explicit photo of yourself after the age of 18 (i.e. nude or suggestive photograph)? *It doesn't matter if you've sent it to someone or not.*

○ Yes

○ No

Which body parts were shown in the photo(s) you took? *Select all that apply.*

☐ Breasts ☐ Vulva/Vagina

☐ Buttocks ☐ Torso

☐ Penis

Who did you send the image(s) to? *Please select all that apply.*

☐ Stranger

☐ Someone you know

☐ Prospective sexual partner (i.e. pre-established flirtatious connection)

☐ Romantic/sexual partner (long-term)

☐ Romantic/sexual partner (short-term)

☐ I've never sent a nude that I've taken

☐ Other (please specify)

If you've sent the nude photo(s) to someone: **Why did you send the image(s)?** *Please select all applicable reasons.*

☐ Recipient requested it

☐ To initiate sexual conversation

☐ To continue sexual conversation

☐ To start a conversation

☐ It was funny

☐ To provoke a reaction

☐ Sending gives me a thrill

☐ N/A - I didn't send the image

☐ Other (please specify)

1

Have you ever _received_ an _unwanted_ explicit image (i.e. nude or suggestive photographs)?

◯ Yes

◯ No

Which body parts were shown in the unsolicited photo(s) you received?*Select all that apply.*

☐ Breasts   ☐ Vulva/Vagina

☐ Buttocks   ☐ Torso

☐ Penis

Who did you receive the image from?*Please select all that apply.*

☐ Stranger

☐ Someone you know

☐ Prospective sexual partner (i.e. pre-established flirtatious connection)

☐ Romantic/sexual partner (long-term)

☐ Romantic/sexual partner (short-term)

☐ Other (please specify)

As an adult, have you ever _sent_ an explicit image that was _not requested_ by the recipient?

◯ Yes

◯ No

Which body parts were shown in the unsolicited photo(s) you sent? *Select all that apply.*

☐ Breasts ☐ Vulva/Vagina

☐ Buttocks ☐ Torso

☐ Penis

Who did you send the image(s) to? *Please select all that apply.*

☐ Stranger

☐ Someone you know

☐ Prospective sexual partner (i.e. pre-established flirtatious connection)

☐ Romantic/sexual partner (long-term)

☐ Romantic/sexual partner (short-term)

☐ Other (please specify)

[   ]

Did sending an _unsolicited_ graphic image ever provide you with any positive results? *Please select all that apply.*

☐ Yes - Date

☐ Yes - Sex

☐ Yes - Sexting/flirting

☐ Yes - Relationship

☐ No

☐ Other (please specify)

[   ]

Did sending an _unsolicited_ graphic image ever cause any negative results? *Please select all that apply.*

☐ Yes - Getting blocked

☐ Yes - Being insulted

☐ Yes - Being publicly shamed/humiliated

☐ Yes - Rejection

☐ Other (please specify)

☐ Yes - Being privately shamed/humiliated

☐ Yes - Getting reported to a form of authority, e.g. police employer, church, teacher

☐ No

[   ]

1

If you have a penis:

If someone asked you to send them an image of your penis, would you consider it?*Please select the option that is most applicable.*

◯ Yes, if they're my partner.

◯ Yes, if I want to have sex with them.

◯ Yes, if it's a funny situation.

◯ No.

◯ N/A - I don't have a penis.

◯ Other (please specify)

[   ]

If you have a vulva/vagina:

If someone asked you to send them an image of your vulva, would you consider it?*Please select the option that is most applicable.*

◯ Yes, if they're my partner.

◯ Yes, if I want to have sex with them.

◯ Yes, if it's a funny situation.

◯ No.

◯ N/A - I don't have a vulva/vagina.

◯ Other (please specify)

[   ]

1

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Why not? *Select all that apply.*

☐ I would feel self-conscious.

☐ I don't want my genitals on the internet.

☐ I prefer showing it in real life.

☐ I don't trust the other person to keep it private.

☐ I don't even want to show it in real life, never mind online.

☐ Other (please specify)

Thinking of <u>dick pics</u>, i.e. photos of penises, which words do you most closely associate with them? *Select all that apply.*

☐ Gross   ☐ Sad

☐ Funny   ☐ Distressing

☐ Boring   ☐ Threatening

☐ Stupid   ☐ Pleasing

☐ Sexy

Enter any other words you associate with dick pics:

This section aims to get an idea of how social media users see the world. Please answer all questions according to how **you** feel about them, not how you think you **should** feel.

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
People see me as a natural leader.	○	○	○	○	○
I hate being the centre of attention.	○	○	○	○	○
Many group activities tend to be dull without me.	○	○	○	○	○
I know that I am special because everyone keeps telling me so.	○	○	○	○	○
I like to get acquainted with important people.	○	○	○	○	○

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel embarrassed if someone compliments me.	○	○	○	○	○
I have been compared to famous people.	○	○	○	○	○
I am an average person.	○	○	○	○	○
I insist on getting the respect I deserve.	○	○	○	○	○

1

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
It's not wise to tell your secrets.	○	○	○	○	○
I like to use clever manipulation to get my way.	○	○	○	○	○
Whatever it takes, you must get the important people on your side.	○	○	○	○	○
Avoid direct conflict with others because they may be useful in the future.	○	○	○	○	○
It's wise to keep track of information that you can use against people later.	○	○	○	○	○

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
You should wait for the right time to get back at people.	○	○	○	○	○
There are things you should hide from other people to preserve your reputation.	○	○	○	○	○
Make sure your plans benefit yourself, not others.	○	○	○	○	○
Most people can be manipulated.	○	○	○	○	○

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I like to get revenge on authorities.	○	○	○	○	○
I avoid dangerous situations.	○	○	○	○	○
Payback needs to be quick and nasty.	○	○	○	○	○
People often say I'm out of control.	○	○	○	○	○
It's true that I can be mean to others.	○	○	○	○	○

Please rate to what extent you agree with the following statements

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
People who mess with me will always regret it.	○	○	○	○	○
I have never gotten into trouble with the law.	○	○	○	○	○
I enjoy having sex with people I hardly know.	○	○	○	○	○
I'll say anything to get what I want.	○	○	○	○	○

Part 4 - Desirability

This section is looking at how desirable you consider yourself to be. Please select the most relevant option.

Overall, how would <u>you</u> rate your level of desirability as a partner on the following scale?

	1 - Extremely undesirable	2 - Undesirable	3 - Somewhat undesirable	4 - Neither desirable nor undesirable	5 - Somewhat desirable	6 - Desirable	7 - Extremely desirable
Please select an option	○	○	○	○	○	○	○

Overall, how would <u>members of the opposite sex</u> rate your level of desirability as a partner on the following scale?

	1 - Extremely undesirable	2 - Undesirable	3 - Somewhat undesirable	4 - Neither desirable nor undesirable	5 - Somewhat desirable	6 - Desirable	7 - Extremely desirable
Please select an option	○	○	○	○	○	○	○

Overall, how do you believe <u>you compare to other people</u> in desirability as a partner on the following scale?

	1 - Very much lower than average	2 - Lower than average	3 - Slightly lower than average	4 - Average	5 - Slightly higher than average	6 - Higher than average	7 - Very much higher than average
Please select an option.	○	○	○	○	○	○	○

Overall, how good of a catch are you?

	1 - Very bad catch	2 - Bad catch	3 - Somewhat of a bad catch	4 - Average catch	5 - Somewhat of a good catch	6 - Good catch	7 - Very good catch
Please select an option.	○	○	○	○	○	○	○

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Part 5 - Attitudes Towards Sexuality

Read each statement carefully, then select the 'yes' or 'no' answer, depending on your views. If you just cannot decide, choose 'not sure'. Please answer *every* question. There are no right or wrong answers. Don't think too long over each question; try to give an immediate answer which represents your *feelings* on each issue. Some questions are similar to others; there are good reasons for getting at the same attitude in slightly different ways.

In general, I prefer the company of people of my own sex.

○ Yes

○ No

○ Not sure

I don't like to be kissed.

○ Yes

○ No

○ Not sure

I enjoy petting.

○ Yes

○ No

○ Not sure

Seeing a person nude doesn't interest me.

○ Yes

○ No

○ Not sure

Sex jokes disgust me.

○ Yes

○ No

○ Not sure

2

I get very excited when touching a woman's breasts/when men touch my breasts *(answer according to which sentence fits your situation best)*.

◯ Yes

◯ No

◯ Not sure

I like to look at pictures of nudes.

◯ Yes

◯ No

◯ Not sure

I am afraid of sexual relationships.

◯ Yes

◯ No

◯ Not sure

I can't stand people touching me.

◯ Yes

◯ No

◯ Not sure

The naked human body is a pleasing sight.

◯ Yes

◯ No

◯ Not sure

This section aims to investigate how people feel about the practice of sending nude images in general.

Please rate the following statements in terms of how you feel about them. Select the option that matches your opinion most closely.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
Online dating would be boring without nudes.	○	○	○	○	○	○
Dick pics are hot.	○	○	○	○	○	○
People should face serious consequences for sending unrequested nudes.	○	○	○	○	○	○
You should only send nudes to someone you trust.	○	○	○	○	○	○
Teenagers should be taught about safe sexting practices.	○	○	○	○	○	○

Please rate the following statements in terms of how you feel about them. Select the option that matches your opinion most closely.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
If you 'match' on a dating app, you should expect to receive nudes.	○	○	○	○	○	○
I feel excited when someone sends me a photo of their genitals after I've requested it.	○	○	○	○	○	○
Senders of unsolicited nudes should be publicly shamed.	○	○	○	○	○	○
Receiving unwanted nudes is an inevitable part of online dating.	○	○	○	○	○	○

Part 6 - Attitudes Towards Sending Nudes

Please rate the following statements in terms of how you feel about them. Select the option that matches your opinion most closely.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
Exchanging nudes can be a part of a healthy sex life.	○	○	○	○	○	○
I prefer to go on a date with someone if I know what their body looks like.	○	○	○	○	○	○
When someone sends you a nude you didn't ask for, it's fine to share it with friends.	○	○	○	○	○	○
Sending nudes is like foreplay.	○	○	○	○	○	○
Women are generally too shy to ask for dick pics.	○	○	○	○	○	○

Part 6 - Attitudes Towards Sending Nudes

Please rate the following statements in terms of how you feel about them. Select the option that matches your opinion most closely.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
I only send nudes when I'm comfortable with it.	◯	◯	◯	◯	◯	◯
Teenagers should be prevented from sexting.	◯	◯	◯	◯	◯	◯
I feel excited when someone sends me a photo of their genitals that I haven't asked for.	◯	◯	◯	◯	◯	◯
Dick pics are inherently threatening.	◯	◯	◯	◯	◯	◯

Please rate the following statements in terms of how you feel about them. Select the option that matches your opinion most closely.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	N/A
Society makes too much of a fuss about dick pics.	◯	◯	◯	◯	◯	◯
Nude selfies sent by those under the age of 18 should be treated as child pornography.	◯	◯	◯	◯	◯	◯
There should be better legal protection in place for people who receive unwanted images of genitals.	◯	◯	◯	◯	◯	◯
I love receiving nudes.	◯	◯	◯	◯	◯	◯
I feel socially pressured into sexting.	◯	◯	◯	◯	◯	◯

If you were directed here via MTurk, please follow the instructions below.**If you did not come via MTurk, please skip straight to the next page.**

In order to claim your MTurk payment, you need to create a Unique Completion Code.

To create your code, please enter the following: The current time + your initials.

Example: If it's 12:56pm and your name is John Smith, your Unique Participant Code is 1256JS. If it's 6:03pm and your name is Anna Baker, your Unique Participant Code is 0603AB.

Please enter your MTurk Completion Code:

<div style="border:1px solid #000; height:40px;"></div>

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Attitudes Towards Online Dating

Debrief

You have reached the end of the survey.
Thank you for taking part.

Research objectives:
Your participation is a vital contribution to the researcher's Master's thesis and to our understanding of human mating behaviour in general. With the rise of social media and dating apps as many people's preferred way to meet new potential partners comes a new set of challenges that are yet to be explored through anthropological research.
The practice of sexting and the phenomenon of sending unsolicited nude images are the main focus of this research project.

This survey was designed to address a number of questions:
- How prevalent is the sending of solicited/unsolicited nude images in our current society?
- Do senders of unsolicited nude images rank higher for certain personality and behavioural traits?
- What motivations inform a person's decision to send unsolicited nude images?

Publication:
A condensed version of the results gathered here will be published as part of the researcher's Master's thesis.
Results may also be published in academic, peer-reviewed journals.
All data collected will be published anonymously and only in such a manner that does not allow for participants to be identified in any way.

Data protection:
All data is securely stored and cannot be accessed by anyone outside of the research team.
All information provided in this survey will be held confidentially. No personally identifying data is collected or stored. The pseudonymised Unique Participant ID will be stored on a separate file, not associated with the results. Data will be securely stored for up to 5 years, so that it can be accessed for potential future research.

Using your Partcipant ID, you can contact datingsurvey@kent.ac.uk at any point to withdraw your data, without having to give a reason. You may wish to set up an anonymous email account to contact us, although this is not necessary.

Contact information:
Researcher: S. A. Ruhland
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ATTITUDES TOWARDS SENDING NUDES
Scale Construction & Validation

Ruhland, S. A. & Johns, S. E.

Background

With the rapid technological advancements of the early 21st century, modes of sexual expression have evolved to normalise the exchange of self-taken sexual images via the internet. In the light of #MeToo, this phenomenon has gained wider recognition, not least due to a perceived rise in the sending of *unsolicited* nude images. A recent parliamentary publication highlights the importance of increasing women's safety in public spaces (Parliament. House of Commons, 2018). According to previous polls and research, many women and girls report discomfort and distress upon receipt of an unsolicited nude image, which suggests an urgent need to develop strategies to make online spaces more safe, enjoyable and devoid of gender-based harassment. All of the above mentioned behaviours are widely understudied and any existing research lacks a universal tool to measure participants' general attitudes towards the practice of exchanging nude images. This study outlines the construction and validation of the *Attitudes Towards Sending Nudes* scale.

The Scale's Uses

The scale was originally designed to be inserted into a large exploratory survey investigating the prevalence of and reasons for sending unsolicited and solicited self-taken sexual images amongst current internet users. However, we are confident that the scale will be useful in a variety of academic contexts.

Subjects of relevance include:
- Digital sexual harassment
- Paraphilias
- Modern short-term mating strategies
- Sexting
- Adolescent sexual behaviour
- Online gender dynamics
    … and many more.

This anti-teen-sexting campaign by Swiss charity Pro Juventute (2013) highlights the prevalence of the issue in modern life and reflects a need for more research on the matter.

Scale Design

The ATSN scale is made up of 23 statements on a range of subjects, including:
- Sending, receiving and sharing nudes
- Online dating
- 'Dick pics'
- The legality of nudes

Participants are asked to rank their level of agreement on a 5-point Likert scale.
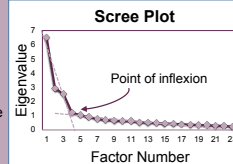
During analysis, each statement can be attributed to one of the three factors. In survey use, the statements should be accompanied by demographic questions, such as age, sex, sexuality, nationality and other relevant measures.

Methods & Results

- Participants sourced via MTurk (N = 310)
- Ranked 28 statements by level of agreement
- 23 statements were retained after factor analysis and reliability testing
- Demographics
  - Caucasian (51%), Asian (37%)
  - Males (63%), Females (37%)
  - Heterosexual (93%)
  - Age range: 21-77 (mode = 28)

The Three Factors of the ATSN Scale

By employing exploratory principle component analysis with varimax rotation, three distinct factors could be extracted. Following Stevens' guidance (2002), a scree plot was deemed the most suitable for factor selection.
- Kaiser-Meyer-Olkin measure: .881
- Bartlett's test: χ^2 = 2998.28
- All 23 statements load above .50

Scree Plot

This graph shows how, using Cattell's (1966) method, three factors can be extracted by looking to the left of the point of inflexion.

Critical/Legal (13.2% of variance, eigenvalue = 3.04)

This factor represents a negative attitude towards nude images, which also emphasises a desire for the sending of unwanted graphic images to be governed by the law.
Sample statements:
- 'Dick pics are inherently threatening'
- 'Teenagers should be prevented from sexting'
- 'People should face serious consequences for sending unrequested nudes'

Neutral/Resigned (16.28% of variance, eigenvalue = 3.74)

This factor reflects an attitude, which is resigned to the idea of nude images as part of the lived experience in a technologically advanced society.
Sample statements:
- 'Receiving unwanted nudes is an inevitable part of online dating'
- 'Society makes too much of a fuss about dick pics'
- 'I feel socially pressured into sexting'

Liberal (22.55% of variance, eigenvalue = 5.19)

This factor indicates a more positive opinion on the subject.
Sample statements:
- 'Exchanging nudes can be a part of a healthy sex life'
- 'I love receiving nudes'
- 'I only send nudes when I'm comfortable with it'

References

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When someone sends you a nude you didn't ask for, it's fine to share it with friends.
- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

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