Why Would Someone Send Me That?! Exploring the Prevalence, Contexts, Motivations, and Predictors of Sending Unsolicited Sexual Images

by

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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

ABSTRACT

Technology has afforded the development of new ways to perpetrate non-consensual sexual acts, one being sending unsolicited sexual images (USIs). This thesis examined this underexplored act by examining the prevalence, contexts and motivations associated with, and predictors (i.e., personality, contact sexual offending, exhibitionistic behaviour) of sending USIs. These queries were investigated by conducting an anonymous online survey with North American adults. Approximately one in ten participants reported sending a USI. Most participants reported sending USIs to recipients they were in an established relationship with and through Snapchat. The most common motivational category endorsed for sending USIs was acting in a transactional mindset (i.e., trying to get something in return from the recipient of their USI). Sexual narcissism and sociosexual orientation were found to positively predict and psychopathy was found to negatively predict sending USIs. History engaging in contact sexual offending and exhibitionistic behaviours did not significantly predict sending USIs.

Keywords: unsolicited sexual image; motivations; personality; sexual offending; technology

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REBECCA FISICO

STATEMENT OF CONTRIBUTIONS

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this thesis.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 2

LIST OF FIGURES

CHAPTER 2

LIST OF ABBREVIATIONS AND SYMBOLS

U.S.	United States of America
TFSV	Technology-Facilitated Sexual Violence
IBSA	Image-Based Sexual Abuse
NCSI	Non-Consensual Sexual Image
USI	Unsolicited Sexual Image
AI	Artificial Intelligence
EIS	Explicit Image Scale
ESI	Experiences with Sexual Images
SD3	Short Dark Triad
SNS	Sexual Narcissism Scale
BIS-Brief	Barratt Impulsiveness Scale Brief
BIS-11	Barratt Impulsiveness Scale-11
SOI-R	Sociosexual Orientation Inventory-Revised
RSES	Rosenberg Self Esteem Scale
SES	Sexual Experiences Survey
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning + Others
PCL-R	Psychopathy Checklist—Revised

CHAPTER 1

INTRODUCTION

"*It is only when they go wrong that machines remind you how powerful they are.*"

– Clive James

We live in a world where it is an ostensibly real and accepted fear that technological innovations might one day take over the world, and arguably, this process has already begun. Within recent years, technology has seemingly become a constant fixture in many people's lives, with shy of three-quarters (73%) of U.S. adults in 2019 subscribing to a home internet service and 81% owning a smartphone (Anderson, 2019). Further supporting this notion of dependence on technology, in 2021, almost half (48%) of U.S. adults reported that they go online "several times a day" and nearly one-third (31%) reported that they go online "almost constantly" (Perrin & Atske, 2021). Indeed, this increased reliance on technology has led to numerous everyday tasks, activities, and functions to be facilitated by technology.

One facet of life that technology has altered greatly is the way that people communicate, with technology-mediated text-based communication having become a seemingly commonplace strategy used to facilitate intimate communication specifically. For example, in 2019, 30% of U.S. adults reported having ever used a dating site or app (Anderson et al., 2020), which are online platforms that can facilitate the connection and text-based communication between potential partners. Moreover, beyond potential partners, texting has also been denoted as a means of communication that can enhance feelings of "connectedness" between established relationship partners (Pettigrew, 2009).

These examples briefly demonstrate two ways that text-based communication can contribute to the facilitation of intimate communication.

Sexting

One type of intimate communication that technology has undoubtably contributed to the evolution of is sexual communication. Specifically, technological advancements have led to the development of "sexting" (combination of the words "sex" and "texting"), which is a slang term for a form of sexual communication facilitated by technology. In a recent meta-analysis of 50 studies ($N = 18,122$) of the sexting literature on emerging adults (i.e., 18 – 28 years old), sexting was defined as "the sharing of personal, sexually suggestive text messages, or nude or nearly nude photographs or videos via electronic devices" (Mori et al., 2020, p. 1103). This meta-analysis reported that 38.3% ($k = 41$) of participants reported sending a sext, 41.5% ($k = 19$) reported receiving a sext, and 47.7% ($k = 16$) reported engaging in reciprocal sexting (i.e., sending and receiving sexts; Mori et al., 2020). When sexting behaviours were examined within a sample ($N = 5,805$) of single adults in the U.S. with a broader age range (i.e., 21 – 75+ years old), relatively high prevalence rates of sexting were also found (Garcia et al., 2016). Namely, this study found that 21.1% of this sample reported sending a sext, 28.1% reported receiving a sext, 15.5% reported sending a sext that contained a sexual image, and 23.4% reported receiving a sext that contained a sexual image. It should be noted that in addition to the age difference between the samples in Mori et al. (2020) and Garcia et al. (2016), the latter prevalence rates may be lower because the data was collected in 2012, when the use of technology to communicate sexually may not have been as pervasive, whereas the

meta-analysis contained studies published until 2018. Though, overall, these prevalence rates suggest that sexting is a common sexual practice amongst adults.

These high rates of sexting are accompanied by a wide range of heterogeneous experiences. Namely, sexting, like all other sexual behaviours, can be either consensual or non-consensual. For a sexting exchange to be consensual, all people involved must be willing participants. In contrast, non-consensual sexting occurs when one or more parties involved are not willing participants, meaning, they are participating due to extenuating circumstances, including, but not limited to, being coerced, pressured, or forced to engage in the sexting exchange.

Technology and Sexual Violence

Lack of consent is the distinguishing facet separating non-consensual sexting from sexting more generally. Thus, it is evident that non-consensual sexting shares similarities with commonly recognized forms of sexual violence that occur in person. These similarities have likely contributed to non-consensual sexual experiences enabled by technology to begin to be recognized as forms of sexual violence. Particularly, sexually violent behaviours perpetrated or experienced through technology have been dubbed acts of technology-facilitated sexual violence (TFSV). TFSV can encompass a variety of forms of perpetration and victimization. Namely, in a review of the TFSV literature concerning adult populations, Henry and Powell (2018) discussed the topics of "online sexual harassment," "gender- and sexuality-based harassment," "cyber-obsessive pursuit" or "cyberstalking," "image-based sexual exploitation," and "the use of a carriage service to perpetrate a sexual assault or coerce an unwanted sexual experience" (p. 197).

In addition to operationalizing the overarching concept of TFSV, authors have also begun conceptualizing subcategories of TFSV that encompass behaviours that share characteristic similarities (e.g., Harper et al., 2021; McGlynn et al., 2017). Since sexual images can be transmitted while sexting, one relevant subcategory of TFSV that has begun to be discussed related to sexting is acts of TFSV that involve sexual images. One term that has been developed to categorize these acts is image-based sexual abuse (IBSA), which refers to the "nonconsensual creation and/or distribution of private sexual images" (McGlynn & Rackley, 2017, p. 536). Some acts that are considered forms of IBSA include having a sexual image forwarded beyond its intended recipient ("revenge porn"), being coerced into sending someone sexually explicit content ("sextortion"), and having a sexual image taken underneath one's clothing without permission ("upskirting"; McGlynn et al., 2017). Due to similarities involved in these behaviours, acts of IBSA have been described as existing on a continuum of sexually abusive acts (McGlynn et al., 2017).

Notably, in a recent article Harper et al. (2021) built on this definition of IBSA and introduced the term non-consensual sexual image (NCSI) offending. Despite this term encompassing many of the same behaviours included on the IBSA continuum, it differs in its approach. Specifically, instead of positioning related forms of non-consensual sexual acts on a continuum, Harper et al. (2021) used a taxonomic approach. This taxonomic approach was taken to demonstrate that the NCSI offending behaviours cannot be ranked, and instead, the perpetration behaviours encompassed within this term are conceptually related (Harper et al., 2021). Harper et al. (2021) explains that scholars have discussed acts of IBSA as being prompted by similar motivations (e.g., misogyny,

power and control) despite little empirical evidence being available about what motivates

people to engage in these non-consensual sexual acts. Harper et al. (2021) also

highlighted that due to the term NCSI offending using more neutral language than IBSA,

it does not insinuate any specific motives for the perpetration behaviours. Due to the lack

of understanding about the motives for why people perpetrate non-consensual sexual acts

involving sexual images, this thesis will use the term NCSI offending when discussing

forms of non-consensual sexting.

Unsolicited Sexual Images

One form of non-consensual sexting that has been named as a form of NCSI

offending is sending unsolicited sexual images (USIs). A USI is an image that contains

sexual content (e.g., naked body) sent using technology to a person who did not consent

to receive it. Some common colloquial terms used for USIs, include "nudes" and "dick

pics" (i.e., image of male genitalia). Notably, like when discussing sexting more

generally, not all instances whereby a sexual image is sent should be considered a non-

consensual sexual experience, as not all sexual images are sent to the recipient in a non-

consensual manner. Namely, solicited sexual images, which can be exchanged while

sexting, are sexual images that a recipient consented to receive (Oswald et al., 2019).

Consent may be communicated to the sender by a potential recipient explicitly asking for

a sexual image to be sent to them or verifying they would like to receive a sexual image

(Oswald et al., 2019). It is also possible, that in some instances, although a sexual image

might be unsolicited, it might not be interpreted or experienced as non-consensual by the

receiver; however, due to the lack of literature available about the potential nuanced

interpretations of USIs in different contexts, this thesis will consider the sending of any USI a non-consensual sexual act.

Despite USIs being a non-consensual sexual experience, the limited prevalence statistics suggest that USIs are a pervasive issue. For example, in a nationally representative sample of U.S. adults, 31% of respondents, with almost an equal split between men (30%) and women (32%), reported that they had received an unrequested explicit image (Duggan, 2017). Moreover, in a sample of young adults (i.e., 18 – 21 years old), 35.6% of participants reported that they had received an unwanted sext (i.e., "text messages containing sexually explicit images"; Klettke et al., 2019, p. 238), with more females (48.3%) than males (24.6%) reporting having received this unwanted sexual content. Despite a large proportion of people reporting having received a USI, it is less common for people to admit to having sent images of this nature. For instance, in a recently published Master's thesis that reported both the prevalence of sending and receiving USIs, 50.8% of participants reported that they had received an unsolicited nude image, whereas 20.7% reported having sent an unsolicited nude image (Ruhland, 2019). Notably, the prevalence of sending and receiving unsolicited nude images in this sample differed, with a larger proportion of females reporting having received (62.0%) and sent (25.5%) unsolicited nude images than males, 36.1% and 14.2% respectively. These prevalence statistics suggest that a considerable proportion of people, and in some cases, with difference observed in certain demographic groups, have experience with USIs, making it critical that research be conducted to better understand this non-consensual sexual act.

Contextual Information

In considering types of sexual violence, it is important to determine the contexts in which it occurs. This can provide insight into circumstances that may pose higher risk of facilitating perpetration or victimization. USIs appear to be a nuanced non-consensual sexual act, such that the circumstances in which people choose to send USIs can vary greatly.

Relationship Between Sender and Receiver

One contextual element of USIs that has been found to vary is the relationship that people who send USIs have with the recipients of their images. For example, Ruhland (2019) reported that within the subset of participants who reported having sent an unsolicited nude before ($n = 78$), most (60.3%) reported sending these USIs to long-term romantic or sexual partners. However, people who had sent USIs in this study also reported sending unsolicited nudes to acquaintances (42.3%), short-term romantic or sexual partners (34.6%), prospective sexual partners (32.1%), and strangers (24.4%). With many participants reporting sending their USIs to a long-term partner, it might be that people believe sending USIs in this context to be more acceptable. However, it is essential to underscore that just as when initiating any other sexual experience in a romantic or sexual partnership, ongoing consent is just as imperative to obtain when engaging in sexual exchanges with partners online.

Platforms Where Unsolicited Sexual Images Are Sent

Another piece of contextual information related to sending USIs that also appears to be quite varied is how people who send USIs are transmitting these images to their recipients. In an article published by the Huffington Post, Gallagher (2019) outlined the

experiences of 70 women who reported that they had received an unsolicited "dick pic."

In this article, women reported a variety of ways that they had received these USIs, such

as AirDrop (i.e., feature on Apple devices that allows users to transmit files to other

devices near them), email, social media platforms (e.g., Instagram, Facebook, Snapchat,

Twitter), dating apps, and messaging apps (i.e., WhatsApp). Receiving USIs on some of

these online platforms has become so pervasive that companies have begun to implement

artificial intelligence (AI) filters to screen out these unrequested or unwanted images. For

example, both the social media platform Twitter (Hamilton, 2020) and online dating

platforms (e.g., Bumble; Frishberg, 2019) have begun rolling out this innovative feature

to protect their users from receiving USIs. This information suggests that people appear

to be at risk of being exposed to USIs on various platforms.

Despite the lack of information about how USIs are sent, it is notable that the use

of text messages appears to be a particularly common way for individuals to transmit

sexts (solicitation not specified) to their recipients. For example, in a sample of young

adults (i.e., 18 – 30 years old) participants reported most often sending sexually

provocative (87.1%) and nude images (88.3%) through text message (Kaylor et al.,

2016). Geeng et al. (2020) also reported that most (62.3%) participants in their adult

sample reported sexting through SMS (short-messaging services). This pattern was also

shown in a subsample of sexters with a broader age range (i.e., 18 – 68 years old), with

more participants sending semi-nude and nude images via text-message than through

mobile applications, such as Snapchat, WhatsApp, and Facebook Messenger (Crimmins

& Seigfried-Spellar, 2017).

Motivations

In addition to understanding the contexts in which USIs are sent, it is also important to examine what motivates someone to send these non-consensual sexual images. To explore this question, authors have begun to directly ask people who have sent USIs about their motives; though, like much of the literature on USIs, due to a focus on examining why men send unsolicited "dick pics," there is limited information about why different genders, beyond men, send USIs. It is also critical to note that despite discussing different potential motives behind sending USIs, sending these images should be considered a non-consensual sexual act regardless of a sender's motive. In line with this, the implications or harm associated with USIs should not be diminished based on the sender's motive, such that regardless of whether a sender did not intend to harm or upset their receiver, the recipient is still being subjected to sexual material without their consent.

Sender Motivations

Within this growing literature base, some findings suggest that sending USIs, particularly unsolicited "dick pics," might be fueled by self-serving motives. For example, in two samples, one of heterosexual men (Oswald et al., 2019) and the other of heterosexual and non-heterosexual men (Lehmiller, 2019), it was found that many men often report operating in a "transactional mindset" when sending unsolicited "dick pics." In this context, having a "transactional mindset" means that men commonly report sending unsolicited "dick pics" to try and get something in return (e.g., sex, sexual image) from the recipient of their image. Consistent with these findings, Mandau (2020) reported that in interviews, young men (i.e., 17 – 20 years old) also described how men

might send nude images (solicitation not specified by interviewer) due to operating in a transactional mindset. Particularly, one participant noted that men might send nude images or "dick pics" because they "hope that something more will happen later," with "something" referring to a sexual outcome of some kind, such as the recipient sending a sexual image in return or asking the sender to "hook up" (Mandau, 2020, p. 81). Similarly, Salter (2016) reported that in interviews, young women (i.e., 18 – 20 years old) also suggested that obtaining something in return from a recipient, such as a sexual image, might be a reason why men send "dick pics." In line with these motives surrounding achieving some sexual outcome, (Lehmiller, 2019) also found that men commonly reported sending unsolicited "dick pics" because they were "horny." These findings suggest that men who send unsolicited "dick pics" might often do so to benefit themselves and fulfill their own sexual needs.

Oswald et al. (2019) also found that the second most popular motivational category for sending unsolicited "dick pics" was "Partner Hunting," which included potential motivations such as, communicating sexual interest in or flirting with the recipient. It is also notable that within this category housed the most highly endorsed individual motivation, which was "I have sent dick pics in the hopes of turning someone on," with 53.0% of men reporting sending unsolicited "dick pics" for this reason. Interestingly, consistent with these reported motivations, in a qualitative study, young men suggested that sending "dick pics" could serve as a compliment or a means to indicate interest in the recipient (Mandau, 2020). Young women in this same study suggested these images may be "misguided" efforts to arouse or flirt with women (Mandau, 2020). Notably, being motivated to send USIs for reasons associated with

partner-hunting are in line with authors (e.g., Harper et al., 2021) suggesting that sending

USIs might be an online manifestation of courtship disorder (Freund & Blanchard, 1986),

which is a disorder conceptualized to provide a theoretical basis to explain the occurrence

of some non-consensual sexual behaviours (e.g., exhibitionism, voyeurism). Specifically,

Harper and colleagues (2021) suggest that sending USIs might represent a disruption in

the pretactile stage of courtship (traditionally associated with in-person exhibitionism),

which is the period in which a person demonstrates interest in a potential partner through

actions that do not require physical contact (e.g., smiling; Freund & Blanchard, 1986).

Therefore, previous research findings and sexual offending theory suggest that, in

addition to USIs being potentially sent for self-serving motives, people may also be

motivated to send USIs in an attempt to communicate interest in or please the recipient.

Sender and Recipient Feelings

Despite the primary motives behind sending unsolicited "dick pics" not appearing

outwardly antisocial, in the limited literature available, it is important to note that in

Oswald et al. (2019)'s study, a smaller proportion of men reported being motivated to

send unsolicited "dick pics" for more antisocial reasons. Namely, 6% of men in this study

reported sending unsolicited "dick pics" due to misogynistic motives (e.g., "I feel a sense

of dislike towards women and sending dick pics is satisfying") and 9% reported being

driven to send these images due to motivations associated with feelings of power and

control (e.g., "Sending dick pics gives me a feeling of control over the person that I have

sent it to"; Oswald et al., 2019, p. 604). These findings suggest that some, albeit a smaller

proportion of senders of USIs, or unsolicited "dick pics," might be motivated to send

these images for more malicious reasons.

In addition to the explicit reasons motivating people to send USIs, it is plausible that the feelings associated with sending USIs might also contribute to people sending these images. For example, the feelings that sending USIs elicit within the sender themselves might contribute to engaging in this act of NCSI offending. Although it does not appear that this has been examined in the context of sending USIs, the feelings experienced after sending sexual images (solicitation not specified) has been outlined in a previous study. Specifically, Kaylor et al. (2016) found that people who sent sexually provocative and nude photos primarily reported experiencing seemingly positive feelings after doing so. For example, in this study, the top three feelings reportedly experienced after sending both types of sexual images were, confident, aroused, and excited. Therefore, if similar positive feelings are associated with sending USIs, this could potentially work to encourage the sending of these non-consensual sexual images.

In addition to the feelings that sending USIs might elicit within the sender, people might also be motivated to send these images to provoke certain feelings within their recipients. Oswald et al. (2019) explored what reactions and feelings heterosexual men who reported having sent an unsolicited "dick pic" aimed to elicit within the recipients of their "dick pics." Notably, this study's findings about recipient reactions and feelings followed a similar pattern to the explicit motivations stated by unsolicited "dick pic" senders, such that most do not seem to send "dick pics" to harm recipients, as only a minority of people report sending images of their genitals to elicit negative feelings within recipients. Specifically, the men in this sample primarily hoped that their recipients would feel sexually excited (82.4%) and attractive (50.1%). In contrast, a smaller portion of men reported aiming to elicit negative feelings within recipients,

including, shock (16.8%), fear (14.5%), disgust (10.9%), anger (8.6%), shame (8.0%),

and devalued (6.9%) upon receiving their "dick pic."

Although a smaller proportion of people report sending USIs for ostensibly

negative reasons, these disagreeable motivations are more aligned with women's

commonly reported perceptions of and experiences with unsolicited "dick pics." For

example, in a study conducted with young adults (i.e., 18 – 20 years old), some women

expressed that unsolicited "dick pics" can elicit feelings of discomfort and confusion, as

they can feel unsure why a "dick pic" was sent to them and what the sender is expecting

them to do in response to receiving the image (Salter, 2016). Moreover, in another

qualitative study conducted with adult women (i.e., 18 – 38 years old; Amundsen,

2020a), participants articulated feeling particularly negatively about the non-consensual

facet of unsolicited "dick pics." They reported that due to their inability to consent to

receive these images, they felt they had no control over these sexual experiences.

However, it is notable that although women tend to report experiencing negative feelings

when having received unsolicited "dick pics," this sentiment has not been found to be

consistent in all demographic groups. That is, after evaluating participant's reactions

toward receiving unsolicited "dick pics," Marcotte et al. (2020) found that in contrast to

women, gay and bisexual men primarily reported positive reactions to receiving these

images. These findings suggest that the factors that provoke sending and the reasons

someone might send USIs can vary and demonstrate that additional investigation is

required to better understand what drives people to send these non-consensual sexual

images.

Characteristics Associated with Sending Unsolicited Sexual Images

In addition to more explicit motivations, personal characteristics may also be a driving factor behind why people sent USIs. Several plausible characteristics may have relevance in explaining why someone may send USIs, some of which have begun to be explored empirically. The following section will discuss personality characteristics that have demonstrated an association with sending USIs, as well as other characteristics that could plausibly be related to sending USIs but have yet to be explored empirically. The characteristics to be discussed include the Dark Triad traits, sexual narcissism, impulsivity, sociosexual orientation, and self-esteem. Discussions of these characteristics and their relationship to sending USIs will be primarily informed by literature on sexting, sending USIs, and due to parallels with other non-consensual sexual acts, sexual offending literature.

Dark Triad Traits

The Dark Triad includes three personality traits; Machiavellianism (characterized by calculated, manipulative, unemotive traits), narcissism (characterized by high self-regard, egotistic traits), and psychopathy (characterized by apathy, recklessness; Jones & Paulhus, 2014). Although these traits are considered separate personality constructs, they share similarities (Jones & Paulhus, 2010), including promoting antisocial interpersonal interactions and behavioural patterns (Paulhus & Williams, 2002). Considering that sending USIs, particularly unsolicited "dick pics," has been deemed a "dark" act (i.e., a form of harassment; Hayes & Dragiewicz, 2018; Paasonen et al., 2019; Vitis & Gilmour, 2017), it is somewhat unsurprising that these traits have begun to be examined in relation to sending USIs. For example, in a sample of participants who had all reportedly sent a

USI before, March and Wagstaff (2017) investigated potential predictors of a person's explicit image scale (EIS) score, which was a scale that assessed participants' attitudes toward, and history of sending, unsolicited genital images. In this study, Machiavellianism was found to predict a person's EIS score (March & Wagstaff, 2017). Moreover, Machiavellianism partially mediated narcissism's and fully mediated psychopathy's relationship with a person's EIS score. Narcissism has also exhibited an association with sending USIs, in both men (Oswald et al., 2019) and women (Ruhland, 2019). More specifically, in a sample of heterosexual men, those who reported that they had sent an unsolicited "dick pic" were found to exhibit higher levels of narcissism than non-senders (Oswald et al., 2019). Similarly, Ruhland (2019) found that in women, narcissism was predictive of sending USIs. However, the association between sending USIs and narcissism has not been consistent as, in a sample of men, Lehmiller (2019) found no significant association between sending unsolicited "dick pics" and narcissism. Psychopathy has also been found to significantly predict sending USIs in men (Ruhland, 2019). However, this finding about psychopathy was not replicated in another study (Lehmiller, 2019). These findings suggest that the Dark Triad traits may be factors to consider when examining predictors of sending USIs, and due to some inconsistent findings present in this literature additional research is needed to determine what role these traits play in this non-consensual sexual act.

Sexual Narcissism

The ties between sending USIs and narcissism sparked interest in examining if a sex-specific narcissism construct, such as sexual narcissism, would also predict this behaviour. Sexual narcissism can be understood as how people demonstrate narcissistic

thought patterns, or the degree to which these thought patterns are triggered in sexual situations (Widman & McNulty, 2010). Although sexual narcissism has not yet been associated with sending USIs directly, it has been associated with other non-consensual sexual acts. For example, Widman and McNulty (2010) found in a sample of men, sexual narcissism was related to the perpetration of unwanted sexual contact, sexual coercion, attempted or completed rape, as well as men's self-rated likelihood of engaging in future acts of sexual violence (Widman & McNulty, 2010). Also, in a sample of German men and women, more sexually narcissistic men primed with sexual words behaved more aggressively (i.e., administered stronger shocks) toward their "competitor" than their less sexually narcissistic counterparts (Imhoff et al., 2013). Sexual narcissism has also been found to be a better predictor of sexual violence than narcissism more generally (Widman & McNulty, 2010). In addition to these previous associations, the different proposed facets encompassed within the construct of sexual narcissism (i.e., sexual exploitation, sexual entitlement, low sexual empathy, sexual skill; Widman & McNulty, 2010) might be relevant to consider. For example, individuals who exhibit high levels of sexual narcissism might feel entitled (sexual entitlement) to send USIs to meet their sexual desires or needs regardless of how the recipient might feel upon receiving it (low sexual empathy). Notably, this potential mindset is in line with theories about people (specifically men) who have perpetrated rape that suggest that these individuals can feel entitled to or deserving of sexual activity whenever they want it (Polaschek & Ward, 2002). These findings and potential links to theories about sexual violence suggest that a person's level of sexual narcissism is a relevant factor to evaluate when examining why an individual may engage in non-consensual sexual acts, including sending USIs.

Impulsivity

Impulsivity can be characterized as responding in an uninhibited manner, whereby the negative consequences of such reactions are not considered (Moeller et al., 2001). Impulsivity has been cited as a common motivation for sending sexually provocative and nude images (Kaylor et al., 2016), however, this study did not specify whether the sexts were unsolicited or not. Despite impulsivity not yet being explored in relation to sending USIs, impulsivity has been associated with perpetrating other non-consensual sexual acts. For example, when statements made by individuals convicted of rape were analyzed, 22.9% described that their offence occurred because they had acted impulsively (i.e., lack of self-control, responding to an urge; Mann & Hollin, 2007). Impulsivity's link to sexual violence has also been demonstrated quantitatively. Namely, a sample of men convicted of rape demonstrated more motor/planning impulsiveness than controls (Carvalho & Nobre, 2013). This same study found a similar pattern among men in college, as those who reported they had perpetrated acts of sexual violence also exhibited higher motor/planning and cognitive impulsiveness than controls (Carvalho & Nobre, 2013). Beyond these previous findings, considering that a primary tenant of an impulsive act is not considering the potential consequences of an action, it could be that people who send USIs might do so to reach certain goals relevant to their wants and needs (e.g., receive a sexual image in return; Lehmiller, 2019; Oswald et al., 2019), but not consider other potential consequences of sending USIs (e.g., upset the recipient). Therefore, these previous results and potential links to previously found motivations for sending USIs suggest that when examining predictors of non-consensual sexual acts, such as sending USIs, impulsivity is a factor that might be relevant to consider.

Sociosexual Orientation

Sociosexual orientation, also termed sociosexuality, can be understood as one's openness toward or tendency to engage in uncommitted sexual relationships (Penke & Asendorpf, 2008). Uncommitted sexual relationships can be considered a short-term mating strategy, which contrast long-term mating strategies which involve mating for extended periods of time (Buss & Schmitt, 1993). A measure of sociosexuality may be relevant to consider in relation to sending USIs, as authors have suggested that USIs may be a short-term mating strategy (Harper et al., 2021; March & Wagstaff, 2017). More specifically, someone might send a USI or sexual image more generally to communicate to the recipient that they are single or interested in them (Harper et al., 2021). It could also be suggested that sending a sexual image could be used as a manipulative method to encourage someone to engage in a short-term sexual encounter (March & Wagstaff, 2017). These theories may be meritorious, because as noted previously, men often report sending unsolicited "dick pics" to try and obtain something in return (i.e., "transactional mindset"; Lehmiller, 2019; Oswald et al., 2019). Interestingly, this transactional motive may be driven by outcomes associated with sending USIs. Namely, studies have shown that people report having experienced positive consequences from sending USIs, such as engaging in sex with the recipient of their USI (Lehmiller, 2019; Ruhland, 2019). Considering these findings, it would be worth examining USIs association with sociosexual orientation to begin to determine if these theories are empirically supported.

Self-Esteem

Self-esteem concerns how positive or negative an individual's attitudes towards oneself are (Heatherton & Wyland, 2003). Self-esteem does not involve a solely objective

weighing of positive and negative attributes and instead entails how a person is emotionally affected when considering their perceived worthiness (Heatherton & Wyland, 2003). Some studies suggest that sexting may play a role in this evaluation process. For example, individuals who reported endorsing more body-image reinforcement motivations to sext were more likely to sext sexual images (Currin et al., 2020). Likewise, when self-report vignettes about personal sexting experiences were examined, one theme that emerged was that some participants sent sexts to receive positive feedback and validation from the receiver through means such as compliments (Bonilla et al., 2020). However, some studies have found self-esteem to be related to sexting differently. For example, higher self-esteem has also been found to decrease someone's odds of sending nude pictures or videos (Scholes-Balog et al., 2016), and other studies have found no relationship between self-esteem and sexting (Crimmins & Seigfried-Spellar, 2017). Self-esteem has also been found to be associated with USIs specifically, as the sentiment of sending USIs to receive a confidence boost has been echoed by men who sent unsolicited "dick pics," with 10.5% of men reporting sending these images for this reason (Oswald et al., 2019). Additionally, heterosexual men who reported having sent an unsolicited "dick pic" were found to exhibit lower levels of self-esteem than their non-sending counterparts; however, notably, this relationship did not emerge for non-heterosexual men (Lehmiller, 2019). Taken together, these findings suggest that some people might send USIs as an external means of increasing their self-esteem (e.g., by receiving positive feedback from recipients), making it of interest to further examine whether self-esteem influences a person's likelihood of sending USIs.

Sexual Perpetration and Unsolicited Sexual Images

Another less explored area in USI research is whether someone's sexual perpetration history is correlated with their likelihood of sending USIs. The following section will discuss why sexual perpetration, specifically a person's history of perpetrating acts of sexual violence and engaging in exhibitionistic behaviour, may be relevant factors to consider when examining who sends USIs. The discussions about these potential predictors will mainly be informed by theoretical and empirical research on sexual offending and literature on USIs.

Sexual Violence Perpetration

Sexual offending literature often refers to two classes of offences; contact and non-contact. Contact offences are acts of sexual violence whereby physical contact occurs between the perpetrator(s) and victim(s), whereas non-contact offences do not require this physical contact to occur for an offence to take place (Gallo, 2020). Non-contact offences such as exhibitionism have traditionally been viewed as "nuisance offences." However, research has suggested that individuals who engage in non-contact sexual offending may also perpetrate contact sexual offences. For example, Firestone et al. (2006) examined the recidivism rates of a sample of exhibitionists and found that of the 49 individuals who had sexually recidivated, 19 had escalated to a contact sexual offence. Therefore, since technology has developed new ways for individuals to commit non-consensual sexual acts that do not require physical contact, such as sending USIs, it is vital to examine whether sending USIs may also be related to perpetrating contact sexual offences. Moreover, Oswald et al. (2019) noted that only examining exhibitionism's relationship to sending unsolicited "dick pics" (explored below) but not

also investigating their relationship to other acts of sexual violence as a limitation and that this question should be explored in future research.

Exhibitionism

Exhibitionism is the non-consensual act of exposing one's genitals to another person (Murphy, 1997). Considering that sending a USI also involves the exposure of one's body to a non-consenting person, these actions display behavioural similarities. These similarities ostensibly sparked the act of sending USIs to be termed "cyber-flashing" by some authors (e.g., Harper et al., 2021), akin to the colloquial term "flashing," commonly used for acts of in person exhibitionism. In addition to the physical similarities of these behaviours, a common sentiment towards both behaviours is similar. Particularly, as noted previously, exhibitionism has historically been viewed as a social nuisance (Lang et al., 1987) and USIs, specifically "dick pics," have been viewed as an "insoluble problem, something women just have to accept if they want to keep living in the world" (North, 2019, para. 2). Due to these similarities, it may be unsurprising that authors have begun to investigate whether exhibitionism and sending USIs are empirically related. Oswald et al. (2019) investigated this relationship in a sample of heterosexual men and found no significant differences in reported exhibitionistic tendencies between participants who reported that they had sent unsolicited "dick pics" and those who had not sent these images (Oswald et al., 2019). Despite this null finding, in another study, of the 5.6% of participants who reported engaging in exhibitionistic behaviour (i.e., exposure of their breasts, penis, or vagina) in person, around one-third (33.9%) of this subsample of participants had also sent nude images (solicitation not specified; Kaylor et al., 2016), demonstrating some behavioural overlap. Despite the lack

of empirical support for the relationship between exhibitionistic tendencies and sending USIs, it is worth further investigating this potential link due to the similarities between these non-consensual sexual behaviours.

Conclusion

The information presented in this chapter illustrates that, sending and receiving USIs is not an uncommon experience. It is also apparent that research has begun to be conducted with the aim to shed additional light on the act of sending USIs. However, these investigations have been limited both in their volume, and due to the focus on sending unsolicited "dick pics," in their scope. However, the preliminary, but invaluable information available about this topic suggest that sending USIs is a heterogenous non-consensual sexual act, such that it can occur in various contexts, be driven by numerous motives, and be associated with different characteristics. Thus, it is critical that additional attention be paid to investigating this type of NCSI offending to better understand the contexts in which people might be more vulnerable to encountering USIs, what motivates someone to send USIs, and what characteristics and sex-based historical variables are associated with sending these non-consensual sexual images.

CHAPTER 2

THE STUDY

Considering the paucity of literature on people who send USIs, this thesis aimed to provide additional insight into people's experiences perpetrating this form of NCSI offending. Particularly, this thesis aimed to investigate the prevalence of sending USIs, the contexts in which USIs are sent, the motivations associated with sending USIs, and whether personality characteristics, contact sexual perpetration history, and exhibitionistic tendencies are predictive of sending USIs.

Research Questions

The specific research questions this thesis aimed to explore include:

1. **Prevalence:** What proportion of people report sending USIs?

2. **Context:** In which contexts are USIs commonly sent?

   a) What is the relationship between senders of USIs and their recipients?

   b) How do people send USIs to their recipients?

3. **Motivations:** What motivates people to send USIs?

   a) **Recipient Feelings:** How do senders want recipients to feel when they receive their USI?

   b) **Sender Feelings:** How do senders report feeling before and after sending a USI?

   c) **Sender Motivations:** What motivations do senders report for sending USIs?

4. **Personality Characteristics:** Do personality characteristics (i.e., Machiavellianism, narcissism, psychopathy, sexual narcissism, impulsivity, sociosexual orientation, and self-esteem significantly predict the sending of USIs?

5. **Sexual Violence:**

   a) **Contact:** Does a person's history of perpetrating contact sexual offences significantly predict the sending of USIs?

   b) **Exhibitionism:** Does a person's history of engaging in exhibitionistic behaviour significantly predict the sending of USIs?

Hypotheses

Although much of the research questions being pursued were relatively exploratory in nature due to the limited extant literature available, the following hypotheses were made:

1. **Prevalence:** It is hypothesized that a larger proportion of participants will report sending sexual images in general and a smaller proportion will report sending USIs. More specifically, it is hypothesized that the prevalence rate of sending USIs in this study will range between 10 – 25% as this is roughly in line with most of the limited prevalence rates that have been reported for sending USIs and unsolicited "dick pics" (e.g., [13%] Rory, 2019; [20.7%] Ruhland, 2019).

2. **Context:**

   a) **Relationship:** Participants will most often report sending USIs to individuals they had a prior established intimate relationship with (i.e., "dating," "in a relationship with," "sexual partner"; Crimmins & Seigfried-Spellar, 2017; Garcia et al., 2016; Ruhland, 2019).

b) **Online or Offline Relationship:** Most participants will report sending USIs to people they have spoken with both online and in person.

c) **How Long Known:** The largest proportion of participants will report sending USIs to people they have known for more than a week.

d) **How Sent:** Most participants will report sending USIs through text message (Crimmins & Seigfried-Spellar, 2017; Geeng et al., 2020; Kaylor et al., 2016).

3. **Motivations:**

a) **Recipient Feelings:** Participants will most often report sending USIs to elicit positive feelings within their recipients (Oswald et al., 2019).

b) **Sender Feelings:** Participants will most often report experiencing positive feelings before and after sending a USI (Kaylor et al., 2016).

c) **Sender Motivations:** The most highly endorsed motivation type will be the "transactional mindset" category (Lehmiller, 2019; Oswald et al., 2019).

4. **Personality Characteristics:** Higher levels of Machiavellianism (March & Wagstaff, 2017), narcissism (Oswald et al., 2019; Ruhland, 2019), psychopathy (Ruhland, 2019), sexual narcissism (Widman & McNulty, 2010), impulsivity (Carvalho & Nobre, 2013; Kaylor et al., 2016; Mann & Hollin, 2007), sociosexual orientation (Harper et al., 2021; March & Wagstaff, 2017), and lower levels of self-esteem (Lehmiller, 2019) will be predictive of sending USIs.

5. **Sexual Violence:**

    a) **Contact:** Engaging in more types of contact sexual perpetration behaviours will be predictive of sending USIs (e.g., Firestone et al., 2006).

    b) **Exhibitionism:** Fantasizing about exposing and actually exposing one's genitals in person to an unsuspecting person will be predictive of sending USIs (e.g., Harper et al., 2021).

Methods

Participants

This study's sample was comprised of Ontario Tech University undergraduate students and community member participants. Before exclusions, 664 students and 328 community members completed the study. After removing participants who did not pass one or both attention checks ($n = 33$), 642 (66.9%) students and 317 (33.1%) community member participants remained, resulting in a final sample of 959 participants. The final sample included 474 (49.7%) female, 466 (48.8%) male, 8 (0.8%) non-binary, and 6 (0.6%) transgender participants. Notably, although the terms "female" and "male" can reflect a person's biological sex, in this study, these terms will reflect the self-identified gender of the participants. Participants' ages ranged from 18 – 73 years old, with the average age being 23.79 years old (SD = 7.73). The largest proportion of this sample identified their sexual orientation as heterosexual (80.4%, $n = 752$), followed by bisexual (11.2%, $n = 105$), homosexual (2.8%, $n = 26$), pansexual (2.1%, $n = 20$), asexual (1.9%, $n = 18$), and other (1.5%, $n = 14$). Most participants identified as Caucasian (48.0%, $n = 452$), followed by South Asian (18.5%, $n = 174$), Black (6.8%, $n = 64$), Other (6.7%, $n = 63$), Southeast Asian (5.0%, $n = 47$), Chinese (4.7%, $n = 44$), Arab (3.4%, $n = 32$),

Filipino (2.9%, *n* = 27), Latin American (2.5%, *n* = 24), West Asian (1.2%, *n* = 11),

Japanese (0.2%, *n* = 2), Korean (0.1%, *n* = 1), and Aboriginal (0.1%, *n* = 1).

Procedure

After obtaining ethical approval from the Ontario Tech University Research

Ethics Board, an anonymous online survey was administered to participants between May

2020 and December 2020. To be eligible to participate, participants were required to be

18 years of age or older and live in North America. This study was conducted entirely

online, with both Ontario Tech University students and community member participants

being recruited to complete an anonymous online survey hosted on the survey platform

Qualtrics. Ontario Tech University student participants were recruited using the

university's online undergraduate student research study portal, SONA. Student

participants had the opportunity to sign up to participate in this study when they saw it

advertised on SONA. After signing up, they were granted access to the study URL, which

they could then click to begin the study. Community member participants were recruited

using the social media platforms Reddit and Twitter. Community members had the

opportunity to participate in this study when they saw the study advertised through posts

on these platforms. In the advertisement, community members were provided with the

study URL to click on to begin the study. Students were compensated with course credit,

and community members had the chance to enter a draw for a $100 Amazon gift card.

Although the means of recruitment and compensation for student and community

member participants differed, the rest of the study procedure was the same for both

subsamples. After clicking on the URL, participants were presented with a virtual consent

form (see Appendix A), which outlined all the necessary information needed to provide

informed consent. After providing informed consent by selecting "*I agree*" to a series of

statements, participants were shown two screening questions (see Appendix B).

Participants were required to select "*Yes*," to both screening questions to be eligible to

continue and complete the rest of the study. If a participant did not select yes to both

screening questions, they were directed out of the survey. Participants who satisfied the

screening criteria were then forwarded to the Demographics Questionnaire (see Appendix

C). All participants were then shown the Experiences with Sexual Images Questionnaire

(see Appendix D). Following this, participants were presented the remaining measures,

including the Exhibitionism Questionnaire (see Appendix E), Short Dark Triad (see

Appendix F; Jones & Paulhus, 2014), Sexual Narcissism Scale (see Appendix G;

Widman & McNulty, 2010), Barratt Impulsiveness Scale-Brief (see Appendix H;

Steinberg et al., 2013), Sociosexual Orientation Inventory-Revised (see Appendix I;

Penke & Asendorpf, 2008), Rosenberg Self Esteem Scale (see Appendix J; Rosenberg,

1965), and a Modified Sexual Experiences Survey (see Appendix K; Abbey et al., 2005)

in counterbalanced order. Participants were also shown two attention checks (see

Appendix L) at two random points while completing the study. After completing all study

materials and submitting their responses, participants were redirected to a virtual

debriefing form (see Appendix M). The study was estimated to take participants up to

approximately 30 minutes to complete.

Measures

Demographic Questionnaire

Participants were asked to report on their demographic characteristics, including their age, gender, sexual orientation, race or ethnicity, relationship status, and how many adult sexual partners they have had.

Experiences with Sexual Images Questionnaire

The Experiences with Sexual Images Questionnaire (ESI) was created for this study to assess participants' experiences with sexual images, both general and unsolicited. The ESI first provided participants with a definition of what a sexual image is, which reads, "*For the purposes of this survey, a sexual image is a digital image that contains sexual subject matter, often of a naked body, in full or in part. These pictures are often referred to as, "nudes."* Participants were provided with this definition to mitigate the issue that participants may operationalize "sexual image" in different ways. Following this definition, the ESI can be divided into five sections, (1) Sending and Receiving Sexual Images, (2) Sending Sexual Images That Were Not Requested, (3) Sending Sexual Images That Were Not Wanted, (4) Motivations to Send Sexual Images, and (5) Perceptions of Sending and Receiving Sexual Images. However, only sections one through four will be discussed, as the findings from section five will not be included in this thesis.

Sending and Receiving Sexual Images. The first section of the ESI asked participants if they had sent someone a sexual image in general (i.e., solicitation not specified); only the participants who reported they had sent a sexual image were subsequently presented with questions about sending behaviours. The sending behaviours

participants were asked about in this section included how many times they have sent a sexual image, how they have sent a sexual image (e.g., text message, Snapchat), whom they have sent a sexual image to, how they have felt before and after they have sent a sexual image, and how they want the recipient of their sexual image to feel when they receive it.

This section also included questions that were presented to all participants. These questions include asking about participants' experiences with receiving different types of sexual images (i.e., general, not asked for, not wanted) and if they have been asked to send someone a sexual image. This section also asked all participants if they have asked someone if they wanted them to send a sexual image, if it would be okay to send someone a sexual image, and whether they normally ask about sending sexual images first or wait until the other person asks them.

Sending Sexual Images That Were Not Requested. The second section of the ESI was only presented to those who reported that they had sent a sexual image. This section first asked participants whether they had sent a sexual image to someone when they did not ask for one. If a participant specified that they had not sent an unrequested sexual image, they were redirected to the next section. Those who specified that they had sent an unrequested sexual image were then asked similar questions about their sending behaviour as in the first section of the ESI, except that these questions were asked in the context of sending unrequested sexual images. In addition to the similar sending behaviour questions outlined in section one of the ESI, this section also included questions about what body parts were shown in the unrequested sexual image, the conversations that preceded sending an unrequested sexual image, if the participant had

met their recipients in person, and the length of time participants had typically known their recipients.

      Sending Sexual Images That Were Not Wanted. The third section of the ESI was only shown to participants who reported that they had sent a sexual image before. This section first asked participants if they have sent a sexual image to someone who said that they did not want one. Those who reported that they have not sent an unwanted sexual image were redirected to the next section of the ESI. Those who reported that they had sent an unwanted sexual image answered the same sending behaviour questions in the unrequested sexual image section, but the sending behaviour questions in this section were framed in the context of sending unwanted sexual images.

      Motivations to Send Sexual Images. The fourth section of the ESI was only presented to participants who reported that they had sent at least one type of sexual image (i.e., any, unrequested, unwanted). In this section, participants were instructed to specify why they had sent sexual images in the past. To do this, participants were shown a table that had columns corresponding with the three types of sexual images being examined in the current study (i.e., any, unrequested, unwanted), and each table row specified a different motivation. This set-up allows for the comparison of motivations between sexual images in general and unsolicited sexual images. Participants were required to select all motivations that applied to them under each relevant column using a check-box format. If a motivation did not apply to them, they were instructed to select "*Not Applicable*." The motivation options provided to participants were adopted from an unpublished measure titled the Motivations Behind Sending Genital Pictures (Oswald et al., 2018) used in a previous study exploring the act of sending unsolicited "dick pics"

(Oswald et al., 2019). This measure was modified for the purpose of this study to be gender-neutral and not specifically address sending "dick pics," but rather sexual images more generally.

Short Dark Triad

The Short Dark Triad (SD3; Jones & Paulhus, 2014) is a 27-item measure, which contains three nine-item subscales which each assess one of the Dark Triad traits (i.e., Machiavellianism, narcissism, psychopathy). When completing the SD3, participants were provided a Likert scale, which ranged from (1) "*Disagree strongly*" to (5) "*Agree strongly*" and were instructed to select the response option that most accurately reflects the degree to which they subscribe to each statement. Scores were computed by reverse scoring the appropriate items and calculating a mean for each subscale. Higher scores on each subscale are indicative of a person exhibiting higher levels of each Dark Triad trait. Similar to other studies where the SD3 had alphas ranging from 0.68 to 0.74 (Jones & Paulhus, 2014) the SD3 also demonstrated good internal consistency in the current study amongst participants who provided valid responses to all items in each subscale, with alpha's ranging from 0.73 to 0.81.

Sexual Narcissism Scale

The Sexual Narcissism Scale (SNS; Widman & McNulty, 2010) is a 20-item scale that evaluates a person's level of sexual narcissism, which can be understood as how individuals with narcissistic personalities exhibit narcissistic tendencies in "sexual situations" (Widman & McNulty, 2019). This scale includes four subscales or facets of sexual narcissism, (1) Sexual Exploitation, (2) Sexual Entitlement, (3) Low Sexual Empathy, and (4) Sexual Skill. Participants were provided a Likert scale ranging from (1)

"*Strongly Disagree*" to (5) "*Strongly Agree*" and were instructed to select the response option that best reflected their attitudes or beliefs. For the purpose of this study, due to the more exploratory nature of the analysis pertaining to sexual narcissism, only the full scale score was computed, which was calculated by averaging all of the items after reverse scoring the necessary items. Higher scores on the SNS signify higher levels of sexual narcissism. The overall SNS measure has demonstrated good internal consistency (Widman & McNulty, 2019) and also demonstrated acceptable internal consistency in this study within the subsample of participants who provided complete data for this measure ($\alpha = 0.84$).

Barratt Impulsiveness Scale-Brief

The Barratt Impulsiveness Scale Brief (BIS-Brief; Steinberg et al., 2013) is a time-efficient unidimensional measure of impulsivity, that contains eight-items from the original Barratt Impulsiveness Scale-11 (BIS-11; Patton et al., 1995). When completing the BIS-Brief, participants were provided a Likert scale ranging from (1) "*Rarely/Never*" to (4) "*Almost Always/Always*" and were instructed to select the most appropriate response for each statement. After reverse scoring the necessary items, the BIS-Brief score was calculated by summing the items together. Higher scores on the BIS-Brief suggest higher levels of impulsivity. The BIS-Brief has previously demonstrated acceptable internal consistency ($\alpha = 0.78$; Steinberg et al., 2013) and also exhibited good internal consistency in the subsample of participants in this study who provided valid responses to all scale items ($\alpha = 0.79$).

Sociosexual Orientation Inventory-Revised

The Sociosexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) is a nine-item measure that assesses people's attitudes towards and proclivity to engage in uncommitted sex. The SOI-R can evaluate someone's global sociosexual orientation and specific facets of this construct by examining the three subscales within the measure, Behaviour, Attitude, and Desire. Each subscale uses different response options, with the Behaviour facet using a Likert scale ranging from (1) "*0*" to (9) "*20 or more*," the Attitude facet using a Likert scale ranging from (1) "*Strongly disagree*" to (9) "*Strongly agree,*" and the Desire facet using response options ranging from (1) "*Never*" to (9) "*At least once a day*." Due to the more exploratory nature of examining this characteristic in relation to sending USIs, in the current study, only the full scale score will be analyzed. Therefore, after reverse scoring the necessary item, the global sociosexual orientation score was calculated by averaging all of the items in the scale. For both global and facet scores, higher scores indicate having a more permissive sociosexual orientation. In previous research, the global scores and the facet scores have all demonstrated acceptable internal consistency (Penke, 2011), and in the subsample of participants in the current study that provided valid responses to all items in this scale, the SOI-R also demonstrated acceptable internal consistency ($\alpha = 0.85$).

Rosenberg Self-Esteem Scale

The Rosenberg Self Esteem Scale (RSES; Rosenberg, 1965) is a ten-item unidimensional measure that assesses a person's level of self-esteem, or how positively or negatively someone evaluates themselves. Participants were instructed to select the response option on a Likert scale ranging from (3) "*Strongly Agree*" to (0) "*Strongly*

Disagree" that reflects how much they agree or disagree with each statement. RSES scores were calculated by summing all of the items together, with higher scores suggesting higher levels of self-esteem. The RSES is a measure that has demonstrated good internal consistency in past studies ($\alpha = 0.91$; Sinclair et al., 2010), and within the subsample of participants in the current study who provided complete data for this measure ($\alpha = 0.89$).

Modified Sexual Experiences Survey

The Sexual Experiences Survey (SES) was developed by Koss and colleagues to assess people's experiences perpetrating and being victimized by sexually violent behaviours (Koss & Gidycz, 1985; Koss & Oros, 1982). The SES has been revised in previous publications in various ways, and in this study, the sexual perpetration questions used most closely resembled the modified SES questions outlined in Abbey et al. (2005). However, this study only asked participants about what behaviours they had perpetrated and did not collect data on the tactics used. Moreover, this study did not put an age limit on the questions (e.g., "Since the age of 14"; Abbey et al., 2005, p. 373) and provided the binary response options, (1) "*Yes*" and (0) "*No*" to participants, rather than asking about the number of times a specific behaviour was perpetrated. In this study, participants were asked whether they had perpetrated six sexual behaviours without permission including, (1) fondling, kissing, and sexual touching, (2) attempting to make someone have sexual intercourse, but the intercourse did not happen, (3) oral sex, (4) sexual intercourse, (5) anal sex, and (6) inserting an object into someone. This measure was scored by summing participants' responses to each item, with higher scores indicating that a participant had perpetrated more forms of sexual violence. This measure's Cronbach's alpha in the

subsample of participants who provided valid responses to all questions in this measure was 0.61.

Exhibitionism Questionnaire

Participants' history engaging in exhibitionistic behaviour was evaluated using two items created for the purpose of this study. Participants were asked whether they had ever fantasized about exposing their genitals to an unsuspecting person in person and whether they had ever actually exposed their genitals to an unsuspecting person in person. Participants could either select (1) "*Yes*" or (0) "*No*," to either confirm or deny that they had engaged in these behaviours. These items were designed using the diagnostic criteria for Exhibitionistic Disorder presented in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013) and the sample questions provided in an article examining paraphilic behaviour in a Swedish sample (Långström & Seto, 2006).

Attention Checks

This study included two attention checks which were randomly presented to participants while completing the study to evaluate whether participants were mindfully responding to the survey. One attention check presented participants with three response options "*Yes*," "*No*," and "*Prefer not to answer*," and participants were instructed to select "*Yes*." The other attention check presented participants with the response options, "*1*," "*2*," "*3*," "*4*," "*5*," and "*Prefer not to answer*," and instructed participants to select the number two.

Data Analysis

The analyses conducted for this thesis focused on gaining a better understanding of participants' experiences with sending USIs. To meet the first three aims of this thesis, univariate descriptive statistics were conducted to determine the proportion of the sample that reported sending USIs, the contexts in which participants reported sending USIs, and what motivations are associated with sending USIs. Regarding prevalence, it was also of interest whether more people within specific groups reported sending USIs. Therefore, Chi-square analyses were conducted to examine prevalence rates of sending USIs by gender and sexual orientation.

To examine whether personality characteristics, contact sexual perpetration history, and exhibitionistic behaviours are predictive of sending a USI, an enter-method binary logistic regression was conducted. Both gender (male = 1, female = 0) and sexual orientation (non-heterosexual = 1, heterosexual = 0) were also added as predictors in this analysis, as some studies have indicated that these variables may be relevant to examine in relation to sending USIs. Namely, studies have found predictors of sending USIs to differ by gender (Ruhland, 2019) and sexual orientation (Lehmiller, 2019). The enter-method involves all variables of interest being entered into the regression in a single step, resulting in each variables' predictive power being analyzed at once, alongside one another. Using the enter-method was the most suitable regression to conduct for this thesis, as due to the lack of literature available on USIs the strong theoretical basis required to conduct other regression analyses (e.g., hierarchical) is not available. Therefore, in this analysis, each independent variable was entered as a continuous or binary dummy-coded predictor variable and participants' USI sending status was dummy

coded (sender = 1, non-sender = 0) and inputted as the binary outcome variable. No

predictor was found to violate the multicollinearity assumption, as all predictors had

Tolerance values above 0.1 and VIF values below 10. The linearity of the logit was also

tested for all continuous variables, except the Modified SES score due to many

respondents having a score of 0. It was found that all predictors met this assumption,

except the SNS and SOI-R scores. Therefore, any results pertaining to these two scales

should be interpreted with caution.

Data Transformations/Variable Transformations

The analyses that examined gender and sexual orientation in relation to sending

USIs (i.e., Chi-square, regression) used recoded binary gender (1 = male, 0 = female) and

sexual orientation variables (1 = non-heterosexual, 0 = heterosexual). For gender, the

original variable was recoded to only include the categories of male and female, with all

other responses being recoded as missing data. For sexual orientation, the response

"heterosexual" remained the same, but all other sexual orientation groups were collapsed

into one to create a non-heterosexual response category. These changes were done to

make meaningful comparison groups, as in some cases, the number of respondents in the

original variable response option groupings were limited.

Participants were asked to report whether they had sent unrequested and unwanted

sexual images in two separate questions but only a very limited number of participants

reported sending an unwanted image. Therefore, an overall USI sending status variable

was created which indicated whether a participant had sent one or both types of USIs. To

do this, a new variable was created whereby any participant who reported sending an

unrequested and/or an unwanted USI were designated as a USI sender (coded as 1), and

all other participants were designated as non-senders (coded as 0).

Missing Data

Participants had the option of selecting "*Prefer not to answer*" to any question

they did not feel comfortable answering. All "*Prefer not to answer*" selections were

coded as missing data during analysis. For "select all that apply" questions, when using

the multiple response set feature on SPSS to analyze this data, any participant who only

selected "*Prefer not to answer*" to that question were treated as missing and not included

in the analysis. To help increase the validity of the predictor variable scores calculated for

the regression analysis, only participants who provided valid responses to 70% or more of

the scale questions were included in the analysis. Due to the measures used in this study

having varying numbers of items, this relatively conservative cut-off was applied to allow

participants to have some missing values, but to avoid losing the integrity of the measure.

If participants who met this cut-off had missing values these missing values were

replaced with the participant's mean response for that measure. For additional details

about the missing item cut-offs used for the regression, see Table 1.

Table 1

Regression Predictors Missing Values Exclusion Criteria

Predictor	Total Number of Items	Missing Values Cut-Off
Machiavellianism	9	> 2
Narcissism	9	> 2
Psychopathy	9	> 2
Sexual Narcissism	20	> 6
Impulsivity	8	> 2
Sociosexuality	9	> 2
Self-Esteem	10	> 3
Contact Sexual Violence	6	> 1
Exhibitionism: Fantasizing	1	1

Results

Prevalence of Sending Unsolicited Sexual Images

Almost half (49.4%, $n = 464$) of participants reported that they had sent a sexual image (solicitation not specified). Looking more specifically at USIs, within the subsample of participants who reported having sent a sexual image, 23.5% ($n = 108$) reported that they had sent a sexual image to someone who did not ask for one (i.e., unrequested) and 1.5% ($n = 7$) reported they had sent a sexual image to someone who said they did not want one (i.e., unwanted). Therefore, within the full sample, when both types of USIs are considered, 11.8% ($n = 110$) of participants reported having sent at least one type (i.e., unrequested, unwanted) of USI.

Prevalence of Sending Unsolicited Sexual Images: Group Differences

Chi-square analyses were conducted to examine whether gender or sexual orientation demonstrated a significant relationship to a participant's USI sending status. Due to the 2×2 nature of these tables, the Chi-squares were interpreted using the Yates Continuity Correction. Notably, due to the limited number of participants who reported sending unwanted sexual images, these Chi-square analyses will be conducted using the combined variable indicating whether a participant reported sending at least one type of USI.

Gender. A small negative ($\phi = -0.14$) significant relationship was found to exist between gender and USI sending status, $X^2(1, N = 916) = 15.77$, $p < .001$. More specifically, a significantly larger proportion of females (16.1%, $n = 74$) reported sending USIs than males (7.4%, $n = 34$).

Sexual Orientation. Sexual orientation demonstrated a small positive ($\phi = 0.11$) significant association with USI sending status, $X^2(1, N = 914) = 9.93$, $p = .002$. Particularly, significantly more participants who identified as non-heterosexual (18.9%, $n = 34$) reported sending USIs than those who identified as heterosexual (10.1%, $n = 74$).

Unsolicited Sexual Images Contextual Information

Frequency analyses were conducted to determine what contexts USIs are sent in, including the relationship between the sender and recipient (as reported by the sender), how long the sender most often had known the recipients of their USIs, and how senders have sent USIs to recipients. Notably, the findings surrounding the relationship between the sender and the receiver of a USI and what platforms USIs were transmitted through exceed 100% because these questions were formatted as "select all that apply." Also, due to the small number of participants who reported sending unwanted USIs only the contextual information about unrequested USIs will be discussed.

Relationship Between Sender and Recipient

Most participants reported sending unrequested USIs to someone they were in a relationship with (74.8%, $n = 80$), followed by a sexual partner (53.3%, $n = 57$), someone they were dating (39.3%, $n = 42$), a friend (17.8%, $n = 19$), a stranger (11.2%, $n = 12$), and an acquaintance (9.3%, $n = 10$).

How Long Sender Has Known Recipient

Most participants who reported having sent an unrequested USI most often reported knowing their recipients for more than a week (87.6%, $n = 92$). In contrast, fewer participants reported that they most often sent unrequested USIs to recipients they

have known for one week (3.8%, $n = 4$), less than a day (3.8%, $n = 4$), more than a day but less than a week (2.9%, $n = 3$), and no time (i.e., strangers; 1.9%, $n = 2$).

Online or Offline Relationship

The largest proportion of participants reported most often sending unrequested USIs to recipients that they had both spoken with online and had met in person (83.8%, $n = 88$). Fewer participants reported most often sending unrequested USIs to recipients they had only spoken with online (10.5%, $n = 11$) or not spoken with or met in person (5.7%, $n = 6$).

How Unrequested Unsolicited Sexual Images Were Sent

The three most common methods participants reported using to send unrequested USIs to recipients were Snapchat (72.2%, $n = 78$), text message (38.9%, $n = 42$), and WhatsApp (17.6%, $n = 19$). See Table 2 for the full findings about how USIs were sent.

Table 2

How Unrequested Unsolicited Sexual Images Were Sent

Platform	%	n
Text message	38.9	42
WhatsApp	17.6	19
Snapchat	72.2	78
Airdrop	0	0
Reddit	1.9	2
Dating application	5.6	6
Facebook Messenger	3.7	4
Twitter	3.7	4
Instagram	7.4	8
Email	4.6	5
Tumblr	0.9	1
Other	5.6	6

Note. This table outlines the online platforms used by participants who reported sending an unrequested unsolicited image ($n = 108$) to send these images.

Motivations for Sending Unsolicited Sexual Images

Frequency analyses were conducted to examine what might motivate people to send USIs. This was examined in terms of how participants who reported having sent a USI aimed to make the recipient of their USI feel upon receiving it, how participants reported feeling before and after sending a USI, and senders' motivations for sending USIs. Again, due to the limited number of participants who reported having sent an unwanted USI, only findings concerning motivations for sending unrequested USIs will be reported. The percentages presented in this section will also exceed 100%, as all motivation-related questions were formatted as "select all that apply," such that participants had the opportunity to select all recipient feelings, personal feelings, and motivations that they felt reflected their experiences sending USIs.

Unrequested Unsolicited Sexual Image Recipient Feelings

The majority of senders of unrequested USIs aimed to make their recipient feel "Turned on" (82.1%, $n = 87$), "Aroused" (80.2%, $n = 85$), "Excited" (68.9%, $n = 73$), and "Pleased" (53.8%, $n = 57$) upon receiving their unrequested USI. Findings about all feelings participants aimed to elicit from the recipients of their unrequested USIs can be found in Figure 1.

Figure 1

Feelings Unrequested Unsolicited Image Senders Aimed to Elicit from Recipients

Feeling	Percentage
Turned on	82.1
Aroused	80.2
Excited	68.9
Pleased	53.8
Desired	47.2
Entertained	44.3
Surprised	33.0
Satisfied	32.1
Sexy	30.2
Attractive	22.6
Confident	17.0
Powerful	15.1
Shocked	8.5
Anxious	4.7
Other	2.8
Embarrassed	1.9
Nervous	1.9
Self-conscious	1.9
Angry	0.9
Bored	0.9
Regretful	0.9
Stupid	0.9
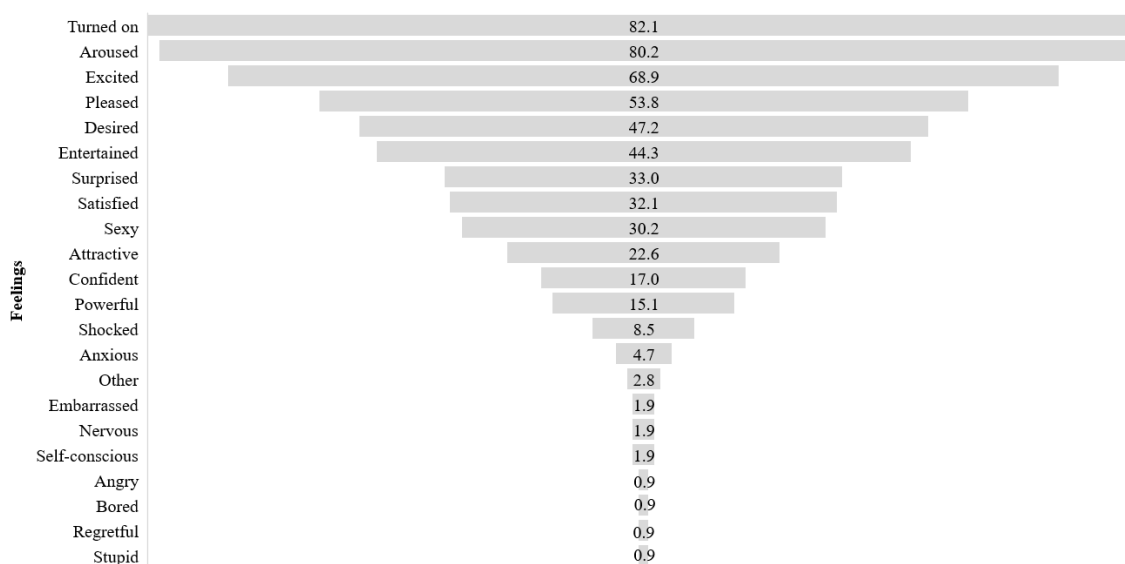
Note. This graph illustrates the percentage of unrequested unsolicited sexual image senders ($n = 106$) that aimed to elicit specific feelings from the recipients of their unsolicited images. Feelings that no participants (0%, $n = 0$) reported attempting to elicit within their recipient(s) were not included in this table. This included wanting the recipient to feel devalued, disgusted, disrespected, distressed, fearful, remorseful, sad, and threatened.

Unrequested Unsolicited Sexual Image Sender Feelings Before

Most participants who reported having sent an unrequested USI reported feeling "Sexy" (59.8%, $n = 64$), "Confident" (57.9%, $n = 62$), "Attractive" (55.1%, $n = 59$), and "Excited" (50.5%, $n = 54$) before sending an unrequested USI. See Figure 2 for an overview of all of the feelings examined.

Unrequested Unsolicited Sexual Image Sender Feelings After

Most participants who said they had sent an unrequested USI reported feeling
"Confident" (53.7%, *n* = 58), "Attractive" (52.8%, *n* = 57), and "Sexy" (50.9%, *n* = 55)
after sending an unrequested USI. Full findings are outlined in Figure 2.

Figure 2

Sender Feelings Before and After Sending Unrequested Unsolicited Sexual Image
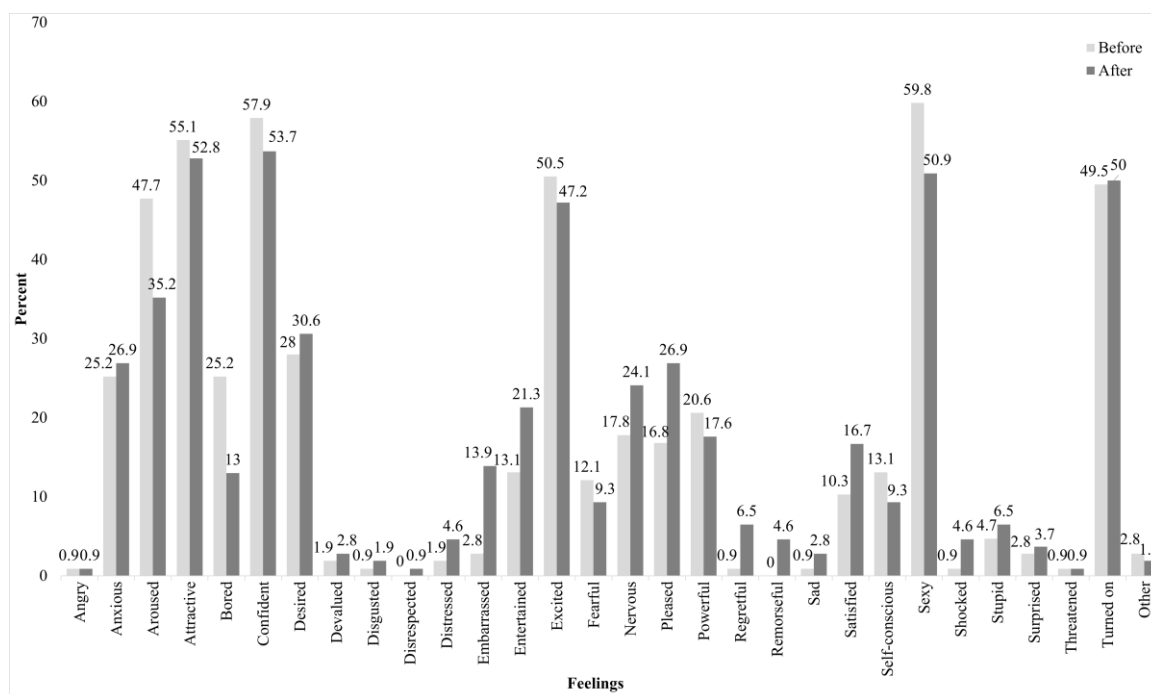
Note. This graph outlines the feelings that participants reported experiencing before (*n* =
107) and after (*n* = 108) sending unrequested unsolicited sexual images.

Unrequested Unsolicited Sexual Image Sender Motivations

The three motivational categories participants most commonly endorsed for
sending unrequested USIs included "Transactional Mindset" (36.3%), "Partner Hunting"
(23.2%), and "Sexual/Personal Gratification" (19.8%). Regarding individual motivations
within the overarching motivational categories, most participants reported sending a
sexual image to someone who did not ask for one "In the hopes of turning someone on"

(47.2%, $n = 50$), "Hoping that the person will want to have sex with me" (39.6%, $n = 42$),

"Hoping to receive sexy pictures in return" (33.0%, $n = 35$), and "To let them know I

have a sexual interest in them" (33.0%, $n = 35$). All motivation categories and individual

motivations are outlined in Table 3.

Table 3

Sender Motivations for Sending Unrequested Unsolicited Sexual Image

Motivations	%	n	%
Transactional Mindset			
Hoping that the person will want to have sex with me.	39.6	42	36.3
Hoping to receive sexy pictures in return.	33.0	35	
Partner Hunting			
Because I misinterpreted the person's sexual interest in me.	6.6	7	
Because that is a normal way of flirting.	24.5	26	
Because I feel like if I send out enough pictures of myself someone will eventually respond.	4.7	5	23.2
To let them know I have a sexual interest in them.	33.0	35	
In the hopes of turning someone on.	47.2	50	
Sexual/Personal Gratification			
Because I like having my body insulted.	3.8	4	
Because I am not confident about the appearance of my body and hope that someone will respond positively and boost my esteem.	14.2	15	
Because I thrive on positive feedback about my body.	18.9	20	
Because I think my body is something that others would be excited to see.	29.2	31	19.8
Because I'm proud of the way my body looks and want to share it with others.	23.6	25	
Because sending them turns me on.	29.2	31	
Power and Control			
Because I get off on the knowledge that someone was forced to see my naked body without their consent.	3.8	4	
Because I like to make people angry by sending pictures of my naked body in response to a disagreement.	2.8	3	5.7
Because sending sexual images gives me a feeling of control over the person I have sent it to.	8.5	9	
Because I think it is funny to send sexual images to someone who didn't request one.	7.5	8	
Unresolved Childhood Conflict			
Because I remember being made to feel shame by my parents when I got too old to be naked around them and others; sending sexual images makes me feel better.	2.8	3	3.8

Because I miss the freedom of being naked around others that I experienced as a young child; sending sexual images is a way of reliving that feeling.	4.7	5

Misogyny/Misandry

Because I don't like feminism and sending sexual images is a way to punish women for trying to take power away from men.	0	0	
Because I feel a sense of dislike towards women and sending sexual images is satisfying.	2.8	3	
			2.4
Because I don't like patriarchy and sending sexual images is a way to punish men for trying to take power away from women.	3.8	4	
Because I feel a sense of dislike towards men and sending sexual images is satisfying.	2.8	3	

Note. The frequencies and percentages represent the findings from 106 participants who reported having sent an unrequested unsolicited sexual image and provided a valid response to this question, such that they reported that at least one motivation applied to them or selected not applicable.

Personality and Perpetration Predictors of Sending Unsolicited Sexual Images

An enter-method binary logistic regression was conducted to evaluate whether a participant's gender, sexual orientation, as well as their level of Machiavellianism, narcissism, psychopathy, sexual narcissism, impulsivity, sociosexuality, self-esteem, and history perpetrating contact sexual violence and engaging in exhibitionistic behaviours were predictive of sending USIs.

Binary Logistic Regression

The binary logistic regression was conducted to examine the predictor variables of interest's influence on USI sending status. The Hosmer and Lemeshow Test was not found to be significant, $\chi^2(8) = 5.39$, $p = .715$, suggesting that the tested model demonstrated a good fit. The tested model was also found to explain between 11.3% (Cox & Snell R^2) to 20.7% (Nagelkerke R^2) of variation in USI sending status.

Within the tested model, four of the 12 variables included demonstrated a statistically significant association with sending USIs. Gender was found to be negatively associated with sending USIs, with males being at decreased odds of sending a USI (OR = .27, $p < .001$). Psychopathy was found to have a significant negative relationship with sending USIs, with individuals with higher psychopathy scores being less likely to send USIs (OR =.46, $p = .007$). Participants with higher sexual narcissism scores were at increased odds of sending a USI (OR = 2.91, $p < .001$). Participants who had higher sociosexual orientation scores were at increased odds of sending USIs (OR = 1.27, $p = .004$). See Table 4 for an overview of all binary logistic regression statistics from the tested model.

Table 4

Unsolicited Sexual Image Binary Logistic Regression

Variable	β	SE	Wald	sig	OR	95% CI Lower	95% CI Upper
Demographics							
Gender	-1.31	.27	23.51	<.001***	.27	.16	.46
Sexual Orientation	.48	.27	3.15	.076	1.62	.95	2.76
Personality							
Machiavellianism	.35	.21	2.92	.088	1.43	.95	2.14
Narcissism	.35	.23	2.27	.132	1.41	.90	2.22
Psychopathy	-.77	.29	7.15	.007**	.46	.26	.82
Sexual Narcissism	1.07	.26	16.40	<.001***	2.91	1.74	4.87
Impulsivity	.03	.03	1.02	.312	1.03	.97	1.09
Sociosexuality	.24	.08	8.10	.004**	1.27	1.08	1.49
Self-Esteem	.00	.02	.00	.986	1.00	.95	1.05
Sexual Violence							
General	.14	.17	.69	.408	1.15	.83	1.59
Exhibitionism							
Fantasizing	.61	.41	2.16	.141	1.83	.82	4.11
Exposure	.71	.69	1.04	.307	2.02	.52	7.83

*$p < .05$ **$p < .01$ ***$p < .001$

Note. This table represents the findings from a binary logistic regression conducted with 781 participants who met the missing data eligibility requirements.

CHAPTER 3

DISCUSSION

This thesis aimed to further elucidate the prevalence rates of sending USIs, contexts in which USIs are sent, motivations associated with sending USIs, and whether a person's personality and history of engaging in contact sexual violence and exhibitionistic behaviour could significantly predict their likelihood of sending a USI. In this sample almost half (49.4%) of participants reported sending any sexual image (i.e., solicitation not specified), whereas only 11.8% of participants reported having sent a USI. These findings were in line with the literature, as prevalence rates of sending image-based sexts have been found to be quite high for adults (e.g., 48.6%; Klettke et al., 2014), whereas the limited prevalence statistics available on sending USIs have been lower (e.g., 20.7%; Ruhland, 2019). These findings support the prevalence hypothesis put forth, as a larger proportion of people reported sending sexual images in general and fewer people reported sending USIs. Also, although the proportion of participants who reported sending USIs was on the lower end of the prevalence rates in the literature, it was still within the projected range.

Demographic Variables

In relation to the prevalence of sending USIs, significant group differences were found in the proportion of participants who reported sending USIs. Regarding gender, significantly more females reported sending a USI than males. This finding aligned with a previous study which also found females to report sending unsolicited nudes more than males (Ruhland, 2019). A similar trend was also signified by the binary logistic regression conducted, which found that males were at decreased odds of sending USIs.

Though, it is notable that other studies have found the opposite pattern. For example, March and Wagstaff (2017) found males to have higher explicit image scale scores (i.e., more positive attitudes toward and a more extensive history sending unsolicited genital images). Moreover, Rory (2019) found that more men (16%) than women (11%) reported having sent an unsolicited nude image before. These disparate findings suggest that additional research is needed to determine what role gender plays in the sending of USIs.

The finding that a larger proportion of women reported having sent a USI than men might reflect gender differences in mating strategies. Specifically, women have been found to take steps to increase their perceived level of physical attractiveness more than men (Buss, 1988). Therefore, sending a USI might be a strategy used by women to maximize the chance to demonstrate their physical attractiveness to potential mates. It could also be suggested that more women reported having sent a USI because it is considered more socially acceptable for women to send USIs than men. Previous research seems to support this potential explanation, as after reading vignettes depicting situations whereby men and women sent unsolicited nude images, Matthews et al. (2018) found participants rated women who sent unsolicited nudes as more appropriate than men who sent these images. Although this finding is noteworthy, it is limited as these vignettes only evaluated participants' perceptions of sending unsolicited nude images in heterosexual contexts. Another reason more women might report sending USIs than men is that women report experiencing fewer negative outcomes (e.g., being blocked or insulted) after sending an unsolicited nude image than men (Ruhland, 2019). These more positive outcomes might stem from sexual images of women's bodies being discussed as more valuable, particularly in heterosexual contexts, than those of male bodies (Ravn et

al., 2021). Therefore, if women sending USIs is deemed more appropriate and women experience more positive than negative outcomes after sending USIs, this may reinforce this behaviour at a heightened rate leading to the current study's finding.

Concerning sexual orientation, a larger proportion of non-heterosexual participants reported sending USIs than heterosexual participants. This finding was expected, as non-heterosexual people have been found to be more likely to sext more generally (Garcia et al., 2016) and send unsolicited "dick pics" (Lehmiller, 2019) than their heterosexual counterparts. Since non-heterosexual participants have been found to discuss sexting as a highly normalized behaviour (Bonilla et al., 2020), it could be theorized that sending all forms of sexts, including USIs, may be more widespread within this community. If this is true, it could be that the perception of USIs differs in the LGBTQ+ community, such that due to sexting being commonplace, USIs are not perceived as *unsolicited* and rather anticipated or expected. Notably, widespread experiences with USIs should not be interpreted as synonymous with them being acceptable or welcomed. This is important to note because in a qualitative study, Bonilla et al. (2020) found that when discussing USIs specifically, both heterosexual and non-heterosexual participants reported experiencing discomfort associated with receiving USIs.

The responses that senders of USIs in the LGBTQ+ community receive from recipients of their USIs might influence their perception of these images. Namely, men within the LGBTQ+ community have been found to have primarily positive reactions to receiving unsolicited "dick pics" (Marcotte et al., 2020). Therefore, if people respond positively to receiving USIs, then senders in the LGBTQ+ community may not always

perceive USIs as unsolicited or non-consensual. These positive reactions could also work to reinforce this behaviour within this community. Though, this finding and theory are limited, as this study also found that women of all sexual orientations reported primarily negative reactions to unsolicited "dick pics" (Marcotte et al., 2020). Regarding these previously found differences in reactions to unsolicited "dick pics," it might be that gay and bisexual men appraise a person's motivation for sending an unsolicited "dick pic" more accurately (i.e., primarily lacking antisocial intent) than women might, leading them to respond differently to these USIs. Moreover, these differences might pertain to evolutionary differences and incompatibility of sexual tactics used by males and females. For example, in focus groups, women have discussed men as being "more visual" sexual beings and that men might send sexual images because they themselves would want to receive such sexual content (Salter, 2016). Therefore, if men use sexual tactics that they typically find appealing, one potential reason why gay and bisexual men might respond more positively to unsolicited "dick pics" than women is because this sexual tactic might be considered desirable by men but not by women. In general, additional research is needed to determine if any of the proposed explanations surrounding this sexual orientation focused finding are valid.

Contextual Factors

One aim of this thesis was to determine the contexts in which USIs are commonly sent, including the relationship between the sender and recipient and which online platforms are used to send them. Ultimately, this information can promote awareness of which circumstances may promote an increased risk of receiving USIs, inform stakeholders about where additional protections need to be implemented, dispel myths,

and help develop educational programming about the importance of consent in sending sexual images.

Relationship Between Sender and Receiver

When asked about the context in which USIs were sent, participants who had sent unrequested USIs reported that most often, they had known their recipients for more than one week and had both spoken with them online and had met them in person. In line with these findings, most participants reported sending unrequested USIs to someone they have had some form of intimate relationship with. Particularly, participants most often reported sending unrequested USIs to someone they were in a relationship with, a sexual partner, and someone they were dating. In contrast, fewer participants reported sending unrequested USIs to friends, strangers, and acquaintances. These findings were in line with the hypotheses proposed and the empirical literature which indicates that sexting exchanges (solicitation not specified) commonly occur between people in relationships (e.g., Crimmins & Seigfried-Spellar, 2017; Garcia et al., 2016; Kaylor et al., 2016).

In this study, it appears that the primary differentiating factor between the more and less common recipients of unrequested USIs is the level of intimacy or sexual history between the sender and receiver. This is consistent with the finding that sexting appears to be a means to build intimacy in relationships (Amundsen, 2020b). Relationships, dating relationships, and sexual partnerships might be more sexually charged than the less highly reported sender and recipient dynamics (e.g., friendships), such that those involved in these relationships have engaged in or are interested in engaging in some form of sexual activity with each other. Considering this, the concept of sexual precedence might be relevant to consider when explaining why sending USIs in established relationships

appears to be so prevalent. Namely, sexual precedence might be relevant because it has been suggested that when sexual activity occurs between people, this sets precedence or a standard that those involved will continue to be interested in engaging in sexual activity (Shotland & Goodstein, 1992). Therefore, it could be suggested that people might be more likely to send USIs in established relationships because senders believe that the recipients will want to (or are obligated to) receive them. The assumption is that the recipient will want to receive sexual images from the sender because the recipient has shown sexual interest in them in the past, or it is assumed that the recipient has a continuing sexual interest in the sender because they are in a relationship. This potential theoretical explanation is supported by the findings of a qualitative study conducted by (Mandau, 2020) whereby a female participant articulated a proposition reminiscent of principles surrounding sexual precedence. Particularly, the participant explained that when she was sent an unsolicited "dick pic" from someone she had been previously sexually involved with, she felt it was as if the sender felt it was acceptable to send the sexual image because of their sexual history.

Transmission Platform

When participants were asked to indicate which platforms they had used to send unrequested USIs, they reported the primary platform used was the mobile app Snapchat. This was not consistent with the hypothesis put forth for this study, as it was hypothesized that most participants would send USIs through text message. However, this unanticipated finding is plausible, as studies have also found Snapchat to be a common platform that people use to sext. For example, in one study, 19.5% of participants reported sending sexually provocative images, and 18.7% reported sending

nude images through Snapchat (Kaylor et al., 2016). Similarly, in a subsample of participants who reported having taken a nude image of themselves, 17.2% reported using Snapchat to sext (Ruhland, 2019). The large proportion of people who reported sending USIs through Snapchat might be due to the age of the current study's sample. An article published by the New York Post highlighted some findings from a recent Singles in America Study. Particularly, Vega (2019) outlined that in this study, participants from Generation Z (i.e., people born between 1997 – 2012) most often reported sending sexts via Snapchat, whereas participants from older generations reported primarily using text messages to sext. Therefore, since the average age of the sample in the current study was relatively young (i.e., approximately 24 years old), this may have contributed to the finding that Snapchat was the most common platform used to send USIs.

Snapchat's popularity for use in sending USIs might be founded in its hallmark feature that allows users to send pictures and videos to one another that disappear after an amount of time (e.g., as little as 1 second), specified by the sender. Some authors have noted that Snapchat has been positioned as a safer platform to use to sext (Bonilla et al., 2020; Kaylor et al., 2016), which might be a perception fueled by this disappearing feature. Indeed, the ability for digital content to disappear with such ease might evoke a sense of comfort in users, as they know that sexual images sent through Snapchat are not automatically stored in the recipient's phone. Although this feature might be positioned as an advantage, it is notable to mention that it could also be an appealing feature for sending USIs for more nefarious reasons, as it can destroy any evidence that a USI was sent. Also, despite a sender being able to request that an image or video be expunged after a fixed amount of time, Snapchat users can still take a screenshot of any digital

content sent to them. This ability to screenshot maintains the risk that those who send sexual images or videos via Snapchat could become a victim of other forms of NCSI offending (e.g., having a sexual image circulated beyond the intended recipient), and recipients could store evidence that they were sent a USI.

Motivations for Sending Unsolicited Sexual Images

When examining what may motivate a person to send a USI, the feelings senders aimed to elicit within their recipient, how senders felt before and after sending a USI, and the sender's motivations were examined. Overall, the findings suggest that most participants who reported sending USIs did not aim to provoke negative emotions within their recipients or due to explicitly antisocial reasons.

Recipient Feelings

In line with the hypothesis for this study, most senders reported trying to elicit positive feelings within the recipients of their unrequested USIs. Indeed, the feelings participants who reported having sent a USI described trying to elicit within their recipients were primarily associated with sexual arousal (i.e., "Turned on," "Aroused") or pleasant feelings (i.e., "Desired," "Excited," "Pleased"). In contrast, considerably smaller proportions of participants reported aiming to prompt negative feelings (e.g., "Shocked," "Anxious," "Angry") within the recipients of their USIs. These findings are in line with the literature, as a similar pattern was found within a sample of heterosexual men who had sent unsolicited "dick pics" (Oswald et al., 2019). These findings suggest that it is likely that most people who send unrequested USIs do not send these images to try and upset their recipients. Instead, most people may send USIs for the opposite reason, such that they believe that their recipients will be aroused by them. This finding and

hypothesis is also consistent with potential explanations for why men send "dick pics" that have been provided by interview participants. Specifically, in one study, male participants explained that men might send "dick pics" to compliment or flatter the recipient, as sending a "dick pic" can insinuate sexual interest (Mandau, 2020). However, although fewer participants reported sending unrequested USIs to evoke negative feelings in recipients, as Oswald et al. (2019) noted, the smaller proportion that do send USIs for these reasons provide support for the conceptualization of sending USIs as a form of sexual harassment. Also, notably, a person's motivation for sending a USI does not nullify the way that a recipient might feel about or be impacted by receiving unsolicited sexual content. This is relevant to mention, as research has shown that although senders might not aim to elicit negative emotions in the recipients of their USIs, it is not uncommon for recipients to feel negative emotions. For example, Marcotte et al. (2020) found females who received unsolicited "dick pics" to primarily report feeling grossed out (48.9%), disrespected (45.6%), and violated (28.2%).

Sender Feelings Before and After

In line with this study's hypotheses, participants primarily reported experiencing positive emotions before and after sending unrequested USIs. Particularly, the majority of participants who had sent unrequested USIs reported feeling "Sexy," "Confident," "Attractive," and "Excited" before sending USIs. Similarly, most participants reported feeling "Confident," "Attractive," and "Sexy" after sending an unrequested USI. These findings are in line with the literature as another study that examined the feelings people experienced after sending sexually provocative and nude images (solicitation not specified; Kaylor et al., 2016) found that most people reported feeling confident, aroused,

and excited in this context. The primary feelings participants report experiencing before and after sending USIs are seemingly positive. Thus, it appears that sending USIs can be an enjoyable experience for many people and it might be that these positive feelings could positively reinforce this behaviour.

Though most senders reported positive feelings before and after sending a USI, it is notable that a relatively sizable proportion of participants reported experiencing feelings associated with anticipation, such as "Anxious" and "Nervous." This is not entirely surprising since participants in previous studies have acknowledged and discussed the potential risks (e.g., having a sexual image shared with others) that can accompany engaging in sexting behaviours (Amundsen, 2020b; Ravn et al., 2021; Waling et al., 2020). These feelings might also relate to people anticipating how the recipient of their USI might react, as people have reported experiencing various outcomes after sending a USI ranging from having sex to being insulted (Ruhland, 2019). It was also found that participants reported experiencing shameful feelings, such as "Embarrassed," "Regretful," "Self-Conscious," and "Stupid," before and after sending USIs. Interestingly, for all of these shameful feelings, except for "Self-Conscious," more participants reported these feelings after sending USIs. These feelings could then also be considered a consequence of sending USIs. In addition, though less reported (i.e., < 5%), it is also notable that some participants reported experiencing ostensibly negative feelings before and after sending a USI, including "Angry," "Devalued," "Disgusted," "Distressed," "Sad," "Shocked," and "Threatened." Taken together, these findings suggest that the feelings evoked before and after sending a USI can vary greatly and

highlights that more research is needed to determine how these feelings influence people's USI sending behaviour.

Sender Motivations

Concerning sender motivations to send USIs, the most highly endorsed motivational category in this study for sending unrequested USIs was "Transactional Mindset," which was endorsed by over one-third of senders. This insinuates that many people who send USIs do so in an attempt to receive something in return from their recipients (i.e., sex, sexual image). This trend was also found in two studies that examined motivations associated with sending unsolicited "dick pics," as both studies found that a large proportion of men reported operating in a transactional mindset when sending unsolicited "dick pics" (Lehmiller, 2019; Oswald et al., 2019). One reason this transactional motive has been a consistently highly endorsed motivational category between studies could be due to the reported outcomes associated with sending USIs. Namely, studies have provided evidence suggesting that people experience positive outcomes from sending USIs, such as engaging in sex with the recipient of their USI (Lehmiller, 2019; Ruhland, 2019). Considering this, as suggested by Lehmiller (2019), these positive outcomes associated with sending USIs could also act as a form of positive reinforcement and encourage this behaviour. It is also notable that the most highly endorsed individual motivation in the current study for sending unrequested USIs was to try and turn the recipient on, which was a part of the second most endorsed motivational category, "Partner Hunting." Interestingly, Oswald et al. (2019) noted that some motivations in this category might also relate to the dominant transactional motive

category, as turning a recipient on might increase the likelihood of receiving a sexual image from them.

In contrast to the highly endorsed motivations cited by participants, two motivational categories that participants did not heavily report were "Power and Control" and "Misogyny/Misandry." Although these motivations were less prevalent, they are concerning, as they suggest that some people *intentionally* send USIs for more unsettling reasons, that are seemingly underpinned by negligent, hateful and tyrannical themes. Therefore, in some cases, USIs do appear to be weaponized in an attempt to communicate or fulfill some people's darker beliefs and desires. Though, despite that only a few senders in the current study reported that more antisocial motivations drove them to send USIs, receivers of USIs in previous studies, specifically regarding unsolicited "dick pics," have communicated interpreting USIs in line with these themes. For example, in interviews, adult female participants discussed that men sending unsolicited "dick pics" can evoke feelings of lacking power and control (Amundsen, 2020a). Moreover, Amundsen (2020a) explained that some women's responses to receiving unsolicited "dick pics," such as using humour, appear to embody attempts to reclaim this power they feel they have lost in these non-consensual sexual interactions. In line with these findings, upon investigating the online discourses that surround "dick pics," Waling and Pym (2019) noted that one common suggested motivation for sending "dick pics" is that they are an action that works to demonstrate the heightened level of authority men hold. These findings suggest that although a larger proportion of people might not send USIs due to more disconcerting motives, people often perceive these images according to these motives.

Taken together, the findings pertaining to motivations for sending USIs in the current study suggest that sending USIs, in most cases, is not an ill-intended act; however, a minority of people who send USIs are motivated to send these images due to more antisocial reasons. These varied motivations highlight that the reasons why people send USIs is not a straightforward matter which underscores the need for additional research to be conducted to better understand these motivational complexities. This additional insight into motivations for sending USIs is particularly important to further elucidate a clearer and potentially more accurate definition of this form of NCSI offending which could then be applied in relevant settings (e.g., research, legal reform).

Personality Characteristics

When personality characteristics were examined as predictors of sending USIs, the findings suggested that sex-specific constructs might be most relevant in predicting this behaviour when compared to general personality traits.

Dark Triad

Among the Dark Triad traits examined (i.e., Machiavellianism, narcissism, psychopathy), psychopathy was the only trait found to significantly predict the sending of USIs; however, this association was in the opposite direction of what was hypothesized. Namely, having higher levels of psychopathic traits was associated with decreased odds of sending USIs. One reason this finding might have emerged is because the measure used in the current study to assess psychopathic traits did not examine the different factors or facets of psychopathy. This might be relevant because different factors and facets of psychopathy have demonstrated varying abilities in predicting sexual violence (Hawes et al., 2013). Specifically, when compared to other Psychopathy Checklist—

Revised (PCL-R) scores, scores on Factor 2 (comprised of Facet 3 [Impulsive Lifestyle] and Facet 4 [Antisocial Behaviour]) and Facet 4 have been found to demonstrate stronger effects in predicting sexual recidivism than other factors and facets (Hawes et al., 2013). This finding could also have occurred because psychopathy has demonstrated stronger and less varied predictive ability for violent recidivism more generally, than sexual recidivism specifically (Hawes et al., 2013). Therefore, due to USIs being an unsolicited sexual behaviour, this more moderate and varied predictive ability might have contributed to the current study's finding. However, it might also be that psychopathy is not a strong driving factor to send USIs for most senders. This suggestion is further supported due to the apparent incongruence between the interpersonal (e.g., disregard for others' feelings) and affective (e.g., low empathy) traits associated with psychopathy (Hare et al., 2000) and the driving forces behind why participants reported sending unrequested USIs in this study. For example, participants primarily reported sending USIs to evoke positive feelings within recipients. This is not in line with the typical goals of someone who exhibits high levels of psychopathic traits, as these individuals are known not to be particularly concerned with or motivated to care about others' emotions (Groat & Shane, 2020).

The other Dark Triad traits, narcissism and Machiavellianism, inconsistent with the hypotheses for this study, were not found to be significantly associated with sending USIs. These findings, along with sending USIs being negatively associated with psychopathic traits in this study could be considered somewhat of a positive finding. This is because the Dark Triad traits have been deemed "socially aversive" and can contribute to antisocial inclinations or behaviours (Zeigler-Hill & Marcus, 2016, p. 3). Therefore,

these findings might suggest that despite sending USIs being a unsolicited sexual act, sending unrequested USIs might not be primarily driven by antisocial characteristics or tendencies in most senders.

It is also important to consider that the primary recipients of unrequested USIs in this sample could have influenced these findings. Indeed, most participants reported sending USIs to people they were in some form of established relationship with, and it could be posited that it is likely that sending USIs in these contexts would not be as likely to be fueled by antisocial characteristics. This proposition is supported by previous research that has explored motivations for sexting in relationships. Particularly, Currin and Hubach (2019) found that within a sample of adults (i.e., 25 – 69 years old) the most highly endorsed motivational category for sexting one's partner was for "sexual purposes" and the least being for "instrumental/aggravated reasons." Though, this finding is limited as it did not pertain to motivations to send USIs to relationship partners but surrounding sexting more generally.

Sexual Narcissism

In this study, the strongest predictor of sending USIs was sexual narcissism, suggesting that it may be a particularly effective construct at predicting this behaviour. However, this variable was found to violate the linearity of the logit assumption, suggesting that this finding should be interpreted with caution. The positive association between sexual narcissism and sending USIs suggests that facets encompassed within this construct (i.e., sexual exploitation, sexual entitlement, low sexual empathy, sexual skill; Widman & McNulty, 2010) might indeed increase one's likelihood to send USIs. For example, since people higher in sexual narcissism might feel that they possess

extraordinary sexual skills or know exactly how to arouse a person (sexual skill), they might believe that the recipients of their USIs would be grateful to receive them. This mindset would align with the findings of the current study that indicated people who sent USIs often did so to turn the recipient on and most people who send USIs aimed to make their recipients feel "Turned On," "Aroused," "Excited," and "Pleased" upon receiving their image. Additionally, people who exhibit higher levels of sexual narcissism might feel they have the right (sexual entitlement) to send USIs to reach their own sexual goals. This hypothesis is furthered by the most highly endorsed motivational category for sending USIs in the current study being the "Transactional Mindset," suggesting that a large proportion of people send USIs to obtain a desired sexual outcome.

Due to the unsolicited nature of sending USIs, the finding that sexual narcissism is a positive predictor of sending USIs aligns with the literature suggesting sexual narcissism is related to sexual aggression (Widman & McNulty, 2010). This finding also suggests that in addition to predicting in person forms of sexual violence, sexual narcissism also possesses utility in predicting acts of NCSI offending. Moreover, since the general construct of narcissism was not found to be significantly related to sending USIs, but sexual narcissism was, this provides additional support for sexual narcissism being a better predictor of sexually aggressive behaviour (Widman & McNulty, 2010). This also demonstrates support for the proposition that for a personality characteristic to predict behaviour, it must activate when the behaviour occurs (Mischel & Shoda, 1995, as cited in, McNulty & Widman, 2013). Therefore, for some individuals, narcissistic behaviour may not be exhibited more generally (e.g., in the workplace). Instead, this personality construct may only activate in sexual situations (e.g., while sexting), making

a sex-specific narcissism construct better at predicting non-consensual sexual behaviour for these people.

Sociosexual Orientation

Another concept related to one's sexuality in the current study that significantly predicted sending USIs was participants' sociosexual orientation. Particularly, in this study, those who exhibited higher levels of sociosexual orientation were at increased odds of sending a USI. Though, it is important to note that this variable did violate the assumption of linearity of the logit, suggesting that this finding should be interpreted with caution. Although sexting has begun to be viewed as a commonplace sexual behaviour, the opposing sentiment, that sexting is risky, remains held by some (Kosenko et al., 2017). Sexting shares this "risky" reputation with some behaviours that have also been associated with having higher levels of sociosexual orientation (e.g., using dating apps for casual sex; Sevi et al., 2018), and sexting has also been associated with engaging in some risky sexual behaviours (e.g., unprotected sexual activity; Kosenko et al., 2017). Considering these parallels, it might be that sociosexual orientation's relationship with engaging in more unrestricted sexual behaviour (e.g., more sexual partners; Ostovich & Sabini, 2004) might also apply to more unrestricted technology-mediated sexual activities such as forms of sexting, like sending USIs.

In previous research, having less restricted sociosexuality (i.e., higher in sociosexual orientation) has been associated with changes in perception of potential partners' sexual interest. Specifically, within a speed-dating paradigm, Lee et al. (2020) found that participants with more unrestrained sociosexuality perceived potential partners as being more sexually interested in them. The authors suggested that people higher on

sociosexual orientation might over-perceive potential partners' sexual interest because

they are projecting their own goals or mating strategies on potential partners (Lee et al.,

2020). This suggestion might also apply to technology-mediated sexual behaviour like

sending USIs, such that people who send USIs might do so because they perceive their

recipient as sexually interested and thus believe that they would want to receive them. In

addition, this projection of goals might also relate to people sending USIs in an attempt to

get something in return from the recipient, such as a sexual image. People who send USIs

might also assume that due to their own desire to receive sexual images, their recipient

would also be interested in receiving these images (Oswald et al., 2019).

Due to sociosexual orientation's association with casual sex, the current study's

finding that sociosexual orientation is positively associated with sending USIs also

provides potential empirical support for the theory posited by other authors that sending

USIs may be a short-term mating strategy (Harper et al., 2021; March & Wagstaff, 2017),

such that people might send USIs to encourage the recipient to engage in a sexual

interaction with them. If this is true, USIs might be considered a time efficient way to

determine whether a recipient is sexually interested based on their response to the image

(Ruhland, 2019). Moreover, the idea that USIs are a short-term mating strategy is further

supported by participants in the current study and previous studies (Lehmiller, 2019;

Oswald et al., 2019) being highly motivated to send USIs in hopes that the recipient will

reciprocate the act by sending a sexual image back or want to have sex with them.

Impulsivity

Impulsivity was not found to be a significant predictor of sending USIs. This

finding could suggest that the act of sending USIs is not driven by a lack of forethought

or solely due to an urge. This can be deduced by considering the primary motivations associated with sending USIs, as the most endorsed motivations for sending USIs tend to insinuate that people who send USIs have specific goals in mind when they send these sexual images, whether that be to obtain something or communicate a certain message. For example, in this study and others (Lehmiller, 2019; Oswald et al., 2019), participants report sending USIs in hopes of receiving a sexual image in return. By reporting this motivation, senders seemingly reveal a plausible sequence of thoughts that come before the action of sending a USI, such that they had a goal, considered what action they could do to achieve that goal, and carried out an action that seemed viable in obtaining that goal. Moreover, the asynchronous nature of the online platforms that people who send USIs depend on to send these sexual images might also contribute to this finding. Particularly, since online interactions do not happen in real-time, people must follow a procedure to send a USI, such that they need to take a picture and then follow the necessary steps required by an online platform to send the image (e.g., select recipient, indicate you want to send a picture, select the correct picture), and then they must wait for a response from the recipient of their image. The seemingly evident thought process and steps one must take when sending a USI are not ostensibly in line with acting impulsively, which might have contributed to the current study's finding.

Another potential reason why the current study did not find an association between sending USIs and impulsivity might be because a general measure of impulsivity was used, rather than a sex-specific impulsivity measure. It might be that due to the sexual nature of sending USIs, a measure pertaining to one's ability to control or inhibit sexual impulses, such as hypersexuality (i.e., "dimensional measure of excessive sexual

fantasies, urges, and/or behaviors"; Kingston & Bradford, 2013, p. 91) might be more relevant to examine in relation to sending USIs than global impulsivity. This suggestion is plausible given that sending USIs is an unsolicited sexual act and hypersexuality has been found to be associated with sexual recidivism (Kingston & Bradford, 2013). Moreover, this postulation is furthered when considering that in the current study, the general construct of narcissism was not found to be significantly associated with sending USIs, but the sex-specific narcissism construct, sexual narcissism, was.

Self-Esteem

In this study, self-esteem was not found to be significantly associated with sending USIs, suggesting that self-esteem might not significantly influence a person's tendency to engage in this type of NCSI offending. Although unexpected, this is not entirely unsurprising, as self-esteem has not demonstrated a consistent relationship to sexting behaviour in general. For example, self-esteem has demonstrated an inverse negative (Scholes-Balog et al., 2016) and no association (Crimmins & Seigfried-Spellar, 2017) with sexting behaviours. Moreover, only one study has examined self-esteem in relation to sending unsolicited "dick pics" within a sample of men of varying sexual orientations and found it only to be negatively associated with sending these USIs in heterosexual men (Lehmiller, 2019).

In addition to mixed findings regarding this link, it could be, similar to the general concepts of impulsivity and narcissism, that self-esteem more generally might not be related to sending USIs. Instead, it could be proposed that a more sex-specific construct related to one's sexual self-concept (i.e., "understanding of one's self as a sexual person"; Hensel et al., 2011, p. 675), such as sexual self-esteem (i.e., "the subjective appraisal of

one's sexual thoughts, feelings, and behaviors"; Zeanah & Schwarz, 1996, as cited in,

Van Bruggen et al., 2006, p. 133) might be. This is a conceivable theory as authors have

suggested that one's sexual self-concept might influence one's sexual behaviours, as the

way that a person perceives themselves might lead them to act in line with that perception

(Breakwell & Millward, 1997). Therefore, due to sending USIs being a sexual act, it

might better relate to how a person evaluates themselves as a sexual being, rather than

their general perception of themselves.

Sexual Violence

A participant's history engaging in acts of contact sexual violence and

exhibitionistic behaviour were not significantly related to sending USIs, which were both

findings that were not consistent with the current study's hypotheses. The lack of

association between contact sexual offences and sending USIs suggests that the patterns

of overlap between perpetrating non-contact offences such as exhibitionism and

perpetrating other sexually aggressive acts found in previous studies (e.g., Bader et al.,

2008) might not extend into the technological sphere. Moreover, the lack of similarities

between contact sexual offences and sending USIs might have contributed to this null

finding. For example, physical contact must be made between a victim and perpetrator for

a contact sexual offence to occur, whereas this is not required to send USIs. Another

difference is that, contact sexual offences share more well-established, serious

consequences (e.g., prison time) when compared to sending USIs.

The null finding concerning exhibitionistic behaviours' association with sending

USIs demonstrates that despite the similarities between these two acts (i.e.,

unexpected/non-consensual exposure of a naked body), they might not be strongly related

to one another. Therefore, the current study does not provide support for the theory that sending USIs might be a form of technology-mediated paraphilic exhibitionism or an extension of courtship disorder (Harper et al., 2021; Hayes & Dragiewicz, 2018). As suggested by Oswald et al. (2019) whom also found a lack of significant association between exhibitionistic behaviour and sending unsolicited "dick pics," these null findings may be because sending USIs has become normalized within society, and individuals may feel more uninhibited online, leading them to engage in behaviours they would not participate in, in person. Thus, the act of sending USIs might be appealing to more people than those who have exhibitionistic urges or paraphilic interests. This is plausible given the wide range of motivations participants in the current study reported prompting them to send USIs. Moreover, it might be that sending USIs might relate to exhibitionism and represent a courting behaviour more generally (e.g., exposing oneself to an intimate partner), but not relate to these concepts in the context of non-consensual sexual behaviour consistent with a DSM-V diagnosis of exhibitionism (i.e., exposing oneself to an unsuspecting person); though, since this study only examined people's exhibitionistic behaviour toward unsuspecting people, future studies would need to investigate the merit of this theory.

Implications

The current study's findings have a wide range of implications as they highlight critical issues to consider in educational efforts, as well as industrial, legal, and clinical settings.

Education

Educational efforts can be directed towards addressing several of the key findings from this study. More women reported sending USIs and men were at decreased odds of sending USIs. This highlights the importance of not positioning the sending of USIs as an act solely perpetrated by male senders. These findings also underscore the importance of examining all gender's perspectives of sending and receiving USIs, rather than primarily focusing on men sending unsolicited "dick pics." Another implication was noted by Matthews et al. (2018) who found women sending USIs to be rated as more appropriate than men. They highlighted that educational initiatives must emphasize that regardless of the gender of a person receiving a sexual image, consent is obligatory and societal beliefs (e.g., men always welcome sexual content) should not cloud the importance of this prerequisite.

An additional implication pertaining to education stems from the current study's finding that USIs were most often sent within intimate relationships. This finding emphasizes the critical notion that people need to be better informed that consent must be respected and obtained in any relationship, regardless of one's sexual history with a person. Thus, it is critical that educational initiatives surrounding consent highlight that the same criteria should apply whether the sexual act you are engaging in is technology-mediated or occurring in person. This includes the criterion that consent should be ongoing, given freely, and must be upheld regardless of how long you have known a person or your relationship with them. The findings from the current study also suggest that targeted education is needed surrounding how to obtain consent while sexting, as

people might not be as familiar with how to have conversations about or obtain consent when proposing or engaging in technology-mediated sexual behaviours.

Industry

Efforts can also be made within industry to minimize the likelihood of USIs being sent or the impact they have on recipients. Snapchat was reported as the most common way that USIs were transmitted by participants, which suggests that Snapchat should consider taking steps to protect its users from being exposed to unsolicited sexual material. Specifically, Snapchat, like other online platforms (e.g., Twitter), could implement software to filter out or warn users about sexually explicit content they may have been sent and provide them with the ability to choose to view it or not. With regard to this, it is notable that in line with the focus of much of the literature on USIs, some filters that have been created for online platforms, appear to be built or marketed to shield users from viewing unsolicited "dick pics" specifically. Due to the current study finding that women also send USIs, it is important that any AI that is developed to protect users from unsolicited sexual material is inclusive, such that it safeguards users from all genres of sexually explicit material, rather than specific types (e.g., "dick pics").

Instead of providing users the option to view potentially sensitive content, online platforms, such as Snapchat, could choose to implement safeguards that put more onus on the sender of the sexual content. For example, Snapchat could implement a similar feature that Instagram has developed to help avoid people posting negative content, such as mean comments. Specifically, Instagram has worked to develop AI technology to flag potentially concerning content and prompting users to reconsider whether they should post the flagged material (Steinmetz, 2019). Concerning USIs specifically, this

technology could be adapted such that if Snapchat recognizes that sexual content is being sent, the sender could be prompted with a question such as, "Did the recipient of this Snapchat consent to receive this content?" Regardless of how, as technology continues to advance and new forms of NCSI offending surface, it is important that online platforms be cognizant of and adamant about implementing innovative means of minimizing harm to users.

Legal

The findings from the current study also carry legal implications, with a primary implication concerning the motivations associated with sending USIs. Namely, when legal reform is being conducted concerning the act of sending USIs, it might be decided that it is necessary for the motivations of the individual who sent the USI to be appraised (e.g., when evaluating mens rea) and considered either an aggravating or mitigating factor when determining the appropriate legal penalty to be allotted to an individual. Despite a person's motivation for sending a USI being a likely and understandable step in the legal process, it is imperative that the experience of the recipient is not diminished or demeaned based on the sender's motivation and that the recipient's experience remains the primary consideration when managing this NCSI offence in the legal sphere.

Clinical

The results of this current study also have potential clinical implications. That is, the current study's prevalence statistics demonstrate that sending USIs is a behaviour that people do indeed engage in; though, it remains unknown if or how this sexual act should be managed in treatment contexts. Individuals who have committed sexual offences can receive a variety of treatments. Therefore, due to the non-consensual sexual nature that

sending USIs shares with sexual offences, it is important to determine if people who send

USIs also require treatment and if so, whether these individuals should be provided

treatments traditionally provided to individuals who have committed sexual offences, or

if a different form of treatment or management is required.

Limitations and Future Directions

   Despite this study providing additional insight into an underexplored form of

NCSI offending, it also holds some limitations that future research could aim to address.

First, this study was based on self-report, making it possible that participants may have

underreported their engagement in sending USIs, due to it being a unsolicited sexual act.

However, to mitigate this potential issue, the survey was anonymous to help increase

participants' level of comfort and encourage them to respond honestly. Another limitation

surrounding reporting was that only a small number of participants reported that they had

sent unwanted USIs (i.e., those sent to recipients who said they did not want one). Thus,

analyses could not be conducted to examine this type of USI specifically and did not

allow for the contexts, motivations, and predictors of unrequested and unwanted USIs to

be compared. Future studies could aim to collect data from a similar number of

participants who reported sending different USIs to make meaningful comparison groups.

Conducting comparisons would help determine whether the contextual factors,

motivations for sending, and the predictors of unrequested and unwanted USIs differ. It

might also be of interest to examine whether the motivations and predictors of sending

USIs differ when people send these images in different contexts (e.g., to strangers versus

in established relationships).

   In relation to collecting more data to form meaningful comparison groups, this

study was limited as all group-based analyses concerning gender and sexual orientation

were conducted using binary categories. This was required due to the limited number of participants who reported identifying as a gender other than male or female, and the small number of participants who identified with a sexual orientation other than heterosexual. Future research could aim to collect enough data from participants from each gender and sexual orientation category to facilitate meaningful comparisons and analyses amongst these groups. This would help to provide a more nuanced account of all people's experiences with sending USIs.

Another limitation of the current study's data is that although a variety of contextual information was examined in relation to sending USIs, additional variables, especially those that could have potential legal implications, could be examined in future studies. For example, due to the importance of age in a person's ability to legally consent to sexual acts, as well as the potential for sexual images to be considered child pornography depending on the age of the person depicted in the photo, future studies could ask participants the ages at which they had sent USIs and how old the recipients of their USIs were. Moreover, an additional contextual variable that could be examined in future studies is geographical location. Particularly, the current study only examined people's experiences sending USIs amongst participants living in North America. It is of interest whether this unsolicited sexual act varies (e.g., prevalence) in different locations (e.g., first-world vs. developing, areas with varying ideologies about consent).

The current study's finding that USIs are most commonly sent in established relationships highlights the need to examine the motivations for sending and interpretations of USIs in different relational contexts. Regarding motivations for sending, this study examined why people send USIs in general rather than in specific

relational contexts. This poses a limitation as it is plausible that people might send USIs for different reasons in different relationships (e.g., to an intimate partner versus a stranger). Therefore, future studies could work to examine why people report sending USIs in different relationships and investigate whether people are driven to engage in this behaviour for different reasons depending on their connection to the recipient. Concerning the interpretations of USIs in different relationships, since many people report sending them in prior established relationships, it might be that USIs are interpreted differently in this context than when they are sent in other relational contexts (e.g., acquaintances, strangers). Specifically, future research could examine how people who send USIs and the recipients of USIs in different contexts interpret these images, particularly in relation to whether they consider or experience them as non-consensual. In relation to this, it might also be useful to examine how recipients respond to USIs in different relational contexts, as it is possible that the reactions that people who send USIs receive in response to these images might influence their interpretation or understanding of USIs. Therefore, despite this thesis conceptualizing USIs as a non-consensual act, it might be that in some established relationships despite USIs being *unsolicited*, they are not interpreted or experienced as *non-consensual* by the recipient. Overall, these remaining queries underscore the need for additional research to be conducted to determine how best to define USIs; for example, does unsolicited always mean non-consensual? Future studies can aim begin to untangle these potential nuanced experiences with USIs in different contexts.

Another limitation of the current study could be that data collection was conducted during the COVID-19 global pandemic; therefore, sexting behaviours,

including sending USIs, and personality constructs (e.g., self-esteem), could have been impacted by the unprecedented nature of this time. For instance, in a recent study conducted with adults (i.e., 18 – 81 years old) to examine how sexual behaviour has changed during the COVID-19 pandemic, it was found that 20.3% of participants reported that they had tried a new sexual behaviour during the pandemic (Lehmiller et al., 2021). Two activities that were among the most common new behaviours added to sex lives were sexting and sending nude images. Particularly, 14.9% of participants reported sexting, and 14.6% reported sending a nude image to someone (Lehmiller et al., 2021). Therefore, it could be that more people were sexting during the COVID-19 pandemic, which could have influenced the prevalence rate reported in this study; however, this seems unlikely, as the prevalence rate reported was at the lower end of the prevalence rates known for sending USIs.

In relation to data collection, a part of this sample was collected from Reddit, whereby the survey was posted on a selection of subreddits relevant to this area of research. Therefore, it could be that participants recruited via these targeted posts may differ in some way from the general population. However, Reddit has been named an effective means of participant recruitment (Jamnik & Lane, 2017; Shatz, 2017) that researchers have begun employing as a recruitment method in studies (e.g., Currin & Hubach, 2019; Kaylor et al., 2016; Oswald et al., 2019). Therefore, although this sample might not be overly generalizable due to the sample used, the sampling methods employed appear to be quite commonplace in academic research.

Concerning sampling, it may also be interesting for future studies to examine the sending of USIs in other samples. Namely, it would be of interest to examine the act of

sending USIs in a sample of participants who have been convicted of a sexual offence. This would help to establish whether forensic samples differ in terms of the prevalence and contexts in which USIs are sent and the motivations and predictors associated with sending USIs. In relation to sexual offending, this study also used a simple measure of sexual perpetration history, which may not have captured all potential forms of sexual violence a participant may have previously perpetrated. Thus, future research could use a more in-depth measure of sexual perpetration history. This study also did not ask participants to report on their history of engaging in other forms of NCSI offending (e.g., video voyeurism). Therefore, future studies could consider asking participants about their history engaging in other forms of NCSI offending in addition to sending USIs to examine if there is any overlap between these behaviours.

Conclusion

With technology seeping into every aspect of daily life, it has also seemingly begun to bleed into the legal sphere by providing new avenues for people to perpetrate sexual acts that may be non-consensual, one of them being sending USIs. The findings from the current study highlight that many people send sexual images but only a subset of people who send sexual images do so in an unsolicited manner. The current study's findings also suggest that females and individuals a part of the LGBTQ+ community send more USIs than their male and heterosexual counterparts. USIs were also found to be most commonly sent in established intimate relationships and transmitted via Snapchat, suggesting that people might be at an increased risk of encountering USIs in these contexts. The motivational variables examined suggest that most people who send USIs are not driven to do so due to outwardly antisocial reasons; though, some people did report sending USIs for more malevolent reasons. In line with this, psychopathy was the

only Dark Triad trait that demonstrated a significant association with sending USIs, but this relationship was negative, suggesting that this antisocial trait might not be particularly related to sending USIs. Also, the two personality characteristics that were significantly and positively associated with sending USIs, sociosexual orientation and sexual narcissism, were both sex-specific constructs, suggesting that general personality constructs might be less relevant in predicting this type of NCSI offence. Finally, sending USIs did not demonstrate a significant association with perpetrating acts of sexual violence suggesting that sending USIs might not be strongly related to engaging in non-consensual sexual acts. In sum, this thesis provides additional insight into the understudied phenomenon of sending USIs; however, it is critical that additional empirical investigations are conducted to better understand this form of NCSI offending.

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Appendix A

Student Participant Consent Form

Consent Form to Participate in a Research Study

Title of Research Study: Experiences with Sexual Images

Principal Investigator (PI): Dr. Leigh Harkins

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Ontario Tech University

Introduction

You are invited to participate in a research study entitled Experiences with Sexual Images. You are being asked to take part in a research study. Please read the information about the study presented in this form. The form includes details on the study's procedures, risks and benefits that you should know before you decide if you would like to take part. You should take as much time as you need to make your decision. You should ask the Principal Investigator (PI) or study team to explain anything that you do not understand and make sure that all of your questions have been answered before signing this consent form. Before you make your decision, feel free to talk about this study with anyone you wish including your friends and family. Participation in this study is voluntary.

This study has been reviewed by the University of Ontario Institute of Technology (Ontario Tech University) Research Ethics Board [#15806] on April 23 2020.

Purpose and Procedure:

This study aims to investigate participants' experiences with sexual images, sexual interests, and their characteristics. You have been invited to participate in this study because you meet the inclusion criteria of being 18 years or older and that you live in North America. We are aiming to recruit approximately 300 participants for the purpose of this study.

If you decide to take part in this study, you will be asked to complete an anonymous survey online. This survey will be comprised of 9 questionnaires, including, a general demographic questionnaire, questionnaires about your past sexual behaviours, sexual interests, and other personal characteristics. Following this, you will be debriefed. The questionnaire portion of the study is expected to take up to 25 minutes to complete and the consent and debriefing is expected to take up to 5 minutes to complete. Therefore, the entire experiment is expected to take up to approximately 30 minutes.

Potential Benefits:

You will not directly benefit from participating in this study.

Potential Risk or Discomforts:

Questionnaires in this study will ask about your experiences with sexual images, past sexual behaviour, and sexual interests. As you complete the materials involved in this study, you may feel uncomfortable revealing your experiences or find it upsetting to answer some questions if you have had negative experiences as a result of any of the behaviours mentioned within this study. If so, please know you can stop the study at any time, select "prefer not to answer", or contact local support services.

- Ontario Tech University Student Life/Mental Health Services:
    - Phone: 905-721-3392 / Email: studentlifeline@ontariotechu.ca
- General Support Service Example:
    - Crisis Text Line operates in both the US and Canada: https://www.crisistextline.org/.

Please be assured that all of your responses will be anonymous and your responses will not be connected to you in any way. Furthermore, we are aware that many people have engaged in different types of behaviour that might be seen as harassing, aggressive or violent in the past. There will be no repercussions for answering the questionnaires honestly. Any information you provide will be used anonymously and aggregated with the data of the complete pool of participants. If at any point in time during the study you have any questions or concerns, please do not hesitate to inform/contact the researcher. At any point in time during the study, you also have the right to discontinue the study without any penalty.

Use and Storage of Data:

We will be using the survey platform Qualtrics to facilitate this data collection. Qualtrics, does not store any sensitive or confidential participant information, but it will save all survey responses. Thus, all study data will also be stored on Qualtrics' restricted, firewall and DDOS protected servers, which require authorization and are not accessible via web traffic. These servers are monitored 24/7, contained in environmentally controlled data centers, this data specifically will be stored in the EU datacenter, located in Central Europe (and thus subject to the data laws and regulations of the country where the servers are located).The information you provide will be entered into a password protected computer database which will only be accessible by the research team. All information collected during this study, including your personal information, will be kept confidential and will not be shared with anyone outside the study unless required by law. You will not be named in any reports, publications, or presentations that may come from this study. You will be asked to provide general demographic information about yourself (e.g. age, gender, sexual orientation), but none of this will be identifying in nature. Furthermore, no identifying information, such as your name (or student ID for participants), will appear in the database. All the data will be aggregated to further

protect the confidentiality of your responses. The data will be kept indefinitely and aggregated/grouped data may be shared with other researchers as required by the ethics and publication guidelines of psychology. If this is the case, none of your identifying information will be included.

Confidentiality:

Your privacy shall be respected. No information about your identity will be shared or published without your permission, unless required by law. Confidentiality will be provided to the fullest extent possible by law, professional practice, and ethical codes of conduct. Please note that confidentiality cannot be guaranteed while data is in transit over the Internet. This research study includes the collection of demographic data which will be aggregated (not individually presented) in an effort to protect your anonymity. Despite best efforts it is possible that your identity can be determined even when data is aggregated.

Although it is very unlikely as we do not ask you to provide any identifying information, there are some situations in which confidentiality may need to be breached, this includes, if you decide to provide identifying information we have not asked for, and report the intention to harm yourself or someone else, or if you report committing a specific previous crime with a victim that can be identified. We also may have a duty to report any abuse to children under the age of 18 to the Children's Aid Society (i.e., if you provide unsolicited information about an identifiable victim). Please note that we have designed the questionnaires in a way that *should not* result in the situations described above, so please feel free to answer the yes or no questions honestly. We do ask, however, that you not provide any extra detail regarding past offences so your confidentiality can be maintained.

You will be asked to provide a code word at the end of the study which will be linked with your responses to protect the anonymity of your data. This will mean your responses will remain anonymous, but will allow us to withdraw your data if you decide you no longer want it to be included. All data will remain anonymous by the investigator and research team. Please also rest assured that the principal investigator and research team will all be required to sign confidentiality agreements to further protect you. In addition, all data will be kept on a password protected lab computer, and will only be accessible to designated members of the research team.

Voluntary Participation:

Your participation in this study is voluntary and you may partake in only those aspects of the study in which you feel comfortable. You may also decide not to be in this study, or to be in the study now, and then change your mind later. You may leave the study at any time without affecting your academic standing, relationship with the institution, access to services, grades in a course, or research credit. You may select "prefer not to answer" to answer any question you do not want to answer. You will be given information that is relevant to your decision to continue or withdraw from participation.

Right to Withdraw:

If you withdraw from the research project at any time, any data that you have contributed will be removed from the study and you do not need to offer any reason for making this request. You may withdraw from the study at any time without consequence. If you withdraw from the research project at any time, any data that you have contributed will be removed from the study, up until Jan. 30, 2021 at which point the data will be analyzed and it will no longer be possible to identify your individual responses. Once results have been published or otherwise disseminated you are unable to withdraw your data. As a participant, you are not waiving any rights to legal recourse in the event of research-related harm. To withdraw during the course of the study, verbally indicate to the researcher you would like to stop if completing the study in person or close the browser if completing it online, and all of your data will be discarded without having been viewed.

The process for withdrawing from the study after completion is as follows:
1. At the end of the study, you will be prompted to provide a code word. This word should be one that is easy for you to remember, but will *not* identify you in any way (e.g., name).
2. We recommend that you make note of your code word on your debrief form, or another location you can easily access (e.g., Cell phone)
3. If you wish to withdraw your data, you can contact Dr. Leigh Harkins using the email or phone number provided above and on your debrief form.
4. When contacting Dr. Leigh Harkins, please clearly state your intent to withdraw your data, and provide your code word.
5. Providing your code word will allow for all data collected from you to be identified and destroyed. You do not have to provide a reason for withdrawal. Once you have stated your intent for your data to be withdrawn, it will not be viewed again, even in the process of withdrawal.
6. You will be contacted to confirm your data has been withdrawn from the study.

Conflict of Interest:

This study does not pose any conflicts of interest.

Compensation, Reimbursement, Incentives:

Please note, in order to be eligible to receive compensation, you must complete the questionnaire in full, but you do have the option to select "prefer not to answer" to any question you do not want to answer. After completing the questionnaire, if you are a student participant you will receive 0.5 course credits for your participation in this study. If you are a community member participant you will have the opportunity to enter into a draw for a $100 Amazon gift card. You are only able to enter into this draw once and you will not be compensated if it is found that you have submitted more than one and/or fraudulent entries into the draw.

<u>Debriefing and Dissemination of Results:</u>

As a participant, you are entitled to be informed of the results of this study if interested. The results may be published in an academic journal and/or presented at an academic conference. If you are interested in the results of this study please contact the researcher at leigh.harkins@ontariotechu.ca.

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Please read this consent form carefully and feel free to ask the researcher any questions that you might have about the study. If you have any questions about your rights as a participant in this study, complaints, or adverse events, please contact the Research Ethics Office at (905) 721-8668 ext. 3693 or at researchethics@ontariotechu.ca.

If you have any questions concerning the research study or experience any discomfort related to the study, please contact the researcher Dr. Leigh Harkins at 905-721-8668 ext 5991 or leigh.harkins@ontariotechu.ca.

By signing this form, you do not give up any of your legal rights against the investigators, sponsor or involved institutions for compensation, nor does this form relieve the investigators, sponsor or involved institutions of their legal and professional responsibilities.

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1. I have read the consent form and understand the study being described.
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3. I freely consent to participate in the research study, understanding that I may discontinue participation at any time without penalty. A copy of this Consent Form has been made available to me.

☐ I agree

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1. I understand the possible need for secondary research uses of my research data for future research use and provide consent for the use of my data to be used in future studies.
2. The research team has informed me that a separate REB application will be submitted for the secondary use of data for any future research purposes.

☐ I agree

Community Member Participant Consent Form

Consent Form to Participate in a Research Study

Title of Research Study: Experiences with Sexual Images

Principal Investigator (PI): Dr. Leigh Harkins

PI's contact number/email: leigh.harkins@ontariotechu.ca
905-721-8668 ext 5991

Student Lead email: rebecca.fisico@ontariotechu.net

Departmental and institutional affiliation: Faculty of Social Sciences and Humanities
Ontario Tech University

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2. The research team has informed me that a separate REB application will be submitted for the secondary use of data for any future research purposes.

☐ I agree

Appendix B

Screening Questions

Q#	Question	Response Options
Q1	Are you 18 years of age or older? *If no direct out of survey*	• Yes • No
Q2	Do you live in North America? *If no direct out of survey*	• Yes • No

Appendix C

Demographic Questionnaire

Q#	Question	Response Options
Q1	How old are you in years?	• Please enter your response using numbers in the box below • Prefer not to answer
Q2	What is your gender?	• Male • Female • Non-Binary • Transgender • Other • Prefer not to answer
Q3	What is your sexual orientation?	• Heterosexual • Homosexual • Bisexual • Asexual • Pansexual • Other • Prefer not to answer
Q4	What is your race/ethnicity?	• Caucasian • South Asian • Chinese • Black • Filipino • Latin American • Arab • Southeast Asian • West Asian • Korean • Japanese • Aboriginal • Other • Prefer not to answer
Q5	What is your relationship status?	• Single • In a relationship, not living together • Married/domestic partnership • Divorced • Widowed • Prefer not to answer

Q6	Roughly how many, if any, different adult sexual partners have you had?	• Please enter your response using numbers in the box below • Prefer not to answer

Appendix D

Experiences with Sexual Images Questionnaire

Sexual Image Definition Preface
For the purposes of this survey, a sexual image is a digital image that contains sexual subject matter, often of a naked body, in full or in part. These pictures are often referred to as, "nudes."

Section 1: Sending and Receiving Sexual Images

Q#	Question	Response Options
Q1	I have sent someone a sexual image. *If no skip to Q10*	• Yes • No • Prefer not to answer
Q2	Roughly how many times have you sent someone a sexual image?	• Please enter your response using numbers in the box below. • Prefer not to answer
Q3	I have sent someone a sexual image using: Please select all that apply.	• Text message • WhatsApp • Snapchat • Airdrop • Reddit • Dating application • Facebook Messenger • Twitter • Instagram • Email • Tumblr • Other (please specify) • Prefer not to answer
Q4	I have sent a sexual image to a male.	• Yes • No • Prefer not to answer
Q5	I have sent a sexual image to a female.	• Yes • No • Prefer not to answer

Q6	I have sent a sexual image to: Please select all that apply.	- A stranger - A friend - A sexual partner - An acquaintance - Someone I was dating - Someone I was in a relationship with - Prefer not to answer

Q#	Question	Response Options
Q7	Before I have sent a sexual image, I have felt: Please select all that apply.	- Angry - Anxious - Aroused - Attractive - Bored - Confident - Desired - Devalued - Disgusted - Disrespected - Distressed - Embarrassed - Entertained - Excited - Fearful - Nervous - Pleased - Powerful - Regretful - Remorseful - Sad - Satisfied - Self-conscious - Sexy - Shocked - Stupid - Surprised - Threatened - Turned on - Other (please specify) - Prefer not to answer

Q#	Question	Response Options
Q8	After I have sent a sexual image, I have felt: Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q9	When I send sexual images to someone I want the person to feel _____ when they receive my sexual image. Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q10	Have you ever asked someone if they would like you to send them a sexual image?	• Yes • No • Prefer not to answer
Q11	Have you ever asked someone if it would be OK to send them a sexual image?	• Yes • No • Prefer not to answer
Q12	Has someone ever asked you to send them a sexual image?	• Yes • No • Prefer not to answer
Q13	Have you ever received a sexual image? *If no skip to Q16	• Yes • No • Prefer not to answer
Q14	Have you ever received a sexual image from someone when you **did *not* ask** for one from them?	• Yes • No • Prefer not to answer
Q15	Have you ever received a sexual image from someone after you had told them you **did *not* want** one?	• Yes • No • Prefer not to answer

Section 2: Sending Sexual Images That Were Not Requested

Only shown to participants who responded "Yes" to Q#1

Q#	Question	Response Options
Q16	I have sent a sexual image to someone when they **did *not* ask** for one. *If no skip to next block*	• Yes • No • Prefer not to answer
Q17	Roughly how many times have you sent a sexual image to someone when they **did *not* ask** for one?	• Please enter your response using numbers in the box below • Prefer not to answer
Q18	When I have sent a sexual image to someone who **did *not* ask** for one, I have sent a picture of: Please select all that apply.	• Full naked body • Chest/Breasts • Abs • Butt • Penis • Vagina • Other (please specify) • Prefer not to answer
Q19	I have sent a sexual image to _____ who **did *not* ask** for one: Please select all that apply.	• A stranger • A friend • A sexual partner • An acquaintance • Someone I was dating • Someone I was in a relationship with • Prefer not to answer
Q20	I have sent a sexual image to someone who **did *not* ask** for one using: Please select all that apply.	• Text message • WhatsApp • Snapchat • Airdrop • Reddit • Dating application • Facebook Messenger • Twitter • Instagram • Email • Tumblr • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q21	Before I have sent a sexual image to someone who did *not* ask for one I have felt: Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q22	After I have sent a sexual image to someone who **did *not* ask** for one I have felt: Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q23	Before I have sent a sexual image to someone who **did *not* ask** for one there has been some conversation:	• Yes • No • Prefer not to answer
Q24	Before I have sent a sexual image to someone who **did *not* ask** for one there has been a neutral conversation:	• Yes • No • Prefer not to answer
Q25	Before I have sent a sexual image to someone who **did *not* ask** for one there has been a sexual conversation:	• Yes • No • Prefer not to answer
Q26	When I have sent a sexual image to someone who **did *not* ask** for one, most often I have:	• Not spoken with or met the person in person • Spoken with the person online only • Spoken with the person online and have met them in person • Prefer not to answer
Q27	When I have sent a sexual image to someone who **did *not* ask** for one, most often I have known the person for:	• No time (strangers) • Less than a day • More than a day but less than a week • 1 week • More than a week • Prefer not to answer

Q#	Question	Response Options
Q28	When I send sexual images to someone who **did *not* ask** for one I want the person to feel _____ when they receive my sexual image. Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Section 3: Sending Sexual Images That Were Not Wanted

Only shown to participants who responded "Yes" to Q#1

Q#	Question	Response Options
Q29	I have sent a sexual image to someone who said they **did *not* want** one. *If no skip to next block*	• Yes • No • Prefer not to answer
Q30	Roughly how many times have you sent a sexual image to someone who said they **did *not* want** one?	• Please enter your response using numbers in the box below • Prefer not to answer
Q31	When I have sent a sexual image to someone who said they **did *not* want** one, I have sent a picture of: Please select all that apply.	• Full naked body • Chest/Breasts • Abs • Butt • Penis • Vagina • Other (please specify) • Prefer not to answer
Q32	I have sent a sexual image to _____ who said they **did *not* want** one: Please select all that apply.	• A stranger • A friend • A sexual partner • An acquaintance • Someone I was dating • Someone I was in a relationship with • Prefer not to answer
Q33	I have sent a sexual image to someone who said they **did *not* want** one using: Please select all that apply.	• Text message • WhatsApp • Snapchat • Airdrop • Reddit • Dating application • Facebook Messenger • Twitter • Instagram • Email • Tumblr • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q34	Before I have sent a sexual image to someone who said they **did *not* want** one I have felt: Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Q#	Question	Response Options
Q35	After I have sent a sexual image to someone who said they **did** *not* **want** one I have felt: Please select all that apply.	Angry Anxious Aroused Attractive Bored Confident Desired Devalued Disgusted Disrespected Distressed Embarrassed Entertained Excited Fearful Nervous Pleased Powerful Regretful Remorseful Sad Satisfied Self-conscious Sexy Shocked Stupid Surprised Threatened Turned on Other (please specify) Prefer not to answer

Q#	Question	Response Options
Q36	Before I have sent a sexual image to someone who said they **did *not* want** one there has been some conversation:	• Yes • No • Prefer not to answer
Q37	Before I have sent a sexual image to someone who said they **did *not* want** one there has been a neutral conversation:	• Yes • No • Prefer not to answer
Q38	Before I have sent a sexual image to someone who said they **did *not* want** one there has been a sexual conversation:	• Yes • No • Prefer not to answer
Q39	When I have sent a sexual image to someone who said they **did *not* want** one, most often I have:	• Not spoken with or met the person in person • Spoken with the person online only • Spoken with the person online and have met them in person • Prefer not to answer
Q40	When I have sent a sexual image to someone who said they **did *not* want** one, most often I have known the person for:	• No time (strangers) • Less than a day • More than a day but less than a week • 1 week • More than a week • Prefer not to answer

Q#	Question	Response Options
Q41	When I send sexual images to someone who said they **did *not* want** one I want the person to feel _____ when they receive my sexual image. Please select all that apply.	• Angry • Anxious • Aroused • Attractive • Bored • Confident • Desired • Devalued • Disgusted • Disrespected • Distressed • Embarrassed • Entertained • Excited • Fearful • Nervous • Pleased • Powerful • Regretful • Remorseful • Sad • Satisfied • Self-conscious • Sexy • Shocked • Stupid • Surprised • Threatened • Turned on • Other (please specify) • Prefer not to answer

Section 4: Motivations to Send Sexual Images

Only shown to participants who responded "Yes" to Q#1

Please indicate why you have sent a sexual image to someone in the three circumstances outlined in each column heading by checking the box if it applies to you.

Please select all that apply.

Please select one option per line. If no option applies to you, please select Not Applicable.

Q#	I have sent a sexual image to _____	someone	someone **who did** *not* **ask** for one	someone who said they **did** *not* **want** one	N/A	PNA
Q42	hoping that the person will want to have sex with me					
Q43	hoping to receive sexy pictures in return					
Q44	because I misinterpreted the person's sexual interest in me					
Q45	because that is a normal way of flirting					
Q46	because I feel like if I send out enough pictures of myself someone will eventually respond					
Q47	to let them know I have a sexual interest in them					
Q48	in the hopes of turning someone on					
Q49	because I like having my body insulted					
Q50	because I am not confident about the appearance of my body and hope that someone will respond positively and boost my esteem					
Q51	because I thrive on positive feedback about my body					

Q52	because I think my body is something that others would be excited to see					
Q53	because I'm proud of the way my body looks and want to share it with others					
Q54	because sending them turns me on					
Q55	because I get off on the knowledge that someone was forced to see my naked body without their consent					
Q56	because I like to make people angry by sending pictures of my naked body in response to a disagreement					
Q57	because sending sexual images gives me a feeling of control over the person I have sent it to					
Q58	because I think it is funny to send sexual images to someone who didn't request one					
Q59	because I remember being made to feel shame by my parents when I got too old to be naked around them and others; sending sexual images makes me feel better					
Q60	because I miss the freedom of being naked around others that I experienced as a young child; sending sexual images is a way of reliving that feeling					
Q61	because I don't like feminism and sending sexual images is a way to punish women for trying to take power away from men					
Q62	because I feel a sense of dislike towards women and sending sexual images is satisfying					

| Q63 | because I don't like patriarchy and sending sexual images is a way to punish men for trying to take power away from women | | | | | |
| Q64 | because I feel a sense of dislike towards men and sending sexual images is satisfying | | | | | |

Section 5: Perceptions of Sending and Receiving Sexual Images

How *acceptable* do you believe it is to *send* a sexual image to someone when they **have *not* asked** you to send one?

Not acceptable 1	2	3	4	5	6	7	8	9	Completely acceptable 10	Prefer not to answer

How *harmful* do you believe it is to *receive* a sexual image when you **have *not* asked** for one?

Not harmful 1	2	3	4	5	6	7	8	9	Very harmful 10	Prefer not to answer

How *acceptable* do you believe it is to *send* a sexual image to someone when they have said they **did *not* want** one?

Not acceptable 1	2	3	4	5	6	7	8	9	Completely acceptable 10	Prefer not to answer

How *harmful* do you believe it is to *receive* a sexual image after saying you **do *not* want** one?

Not harmful 1	2	3	4	5	6	7	8	9	Very harmful 10	Prefer not to answer

Appendix E

Exhibitionism Questionnaire

Q#	Question	Response Options
Q1	Have you ever *fantasized* about exposing your genitals to an unsuspecting person *in person*? *If no skip to Q4*	• Yes • No • Prefer not to answer
Q2	When you have *fantasized* about exposing your genitals to an unsuspecting person *in person* have you become sexually aroused?	• Yes • No • Prefer not to answer
Q3	When you have *fantasized* about exposing your genitals to an unsuspecting person *in person*, how old was the person you were fantasizing about exposing your genitals to? Please select all that apply.	• Child • Adolescent • Adult • I don't know how old they were • Prefer not to answer
Q4	Have you ever *exposed* your genitals to an unsuspecting person *in person*? *If no skip to end of block*	• Yes • No • Prefer not to answer
Q5	Approximately how many times have you *exposed* your genitals to an unsuspecting person *in person*?	• Please enter your response using numbers in box below • Prefer not to answer
Q6	When you have *exposed* your genitals to an unsuspecting person *in person* have you become sexually aroused?	• Yes • No • Prefer not to answer
Q7	Approximately how many times have you *exposed* your genitals to an unsuspecting person *in person* and have become sexually aroused by this?	• Please enter your response using numbers in box below • Prefer not to answer
Q8	When you have *exposed* your genitals to an unsuspecting person *in person* they were a: Please select all that apply.	• Child • Adolescent • Adult • I don't know how old they were • Prefer not to answer
Q9	When you have *exposed* your genitals to an unsuspecting person *in person* did you masturbate in private after the event while thinking about what you had done?	• Yes • No • Prefer not to answer

Q10	When you have *exposed* your genitals to an unsuspecting person *in person* did you masturbate while you exposed yourself to them?	• Yes • No • Prefer not to answer

Appendix F

Short Dark Triad

Preface:
Please indicate how much you agree with each of the following statements.

Response Options: Likert scale ranging from Disagree strongly – Agree strongly
Disagree strongly   Disagree   Neither agree   Agree   Agree strongly   Prefer not to nor disagree   answer

Cat.	Q#	Question
MACH	Q1	It's not wise to tell your secrets.
	Q2	I like to use clever manipulation to get my way.
	Q3	Whatever it takes, you must get the important people on your side.
	Q4	Avoid direct conflict with others because they may be useful in the future.
	Q5	It's wise to keep track of information that you can use against people later.
	Q6	You should wait for the right time to get back at people.
	Q7	There are things you should hide from other people to preserve your reputation.
	Q8	Make sure your plans benefit yourself, not others.
	Q9	Most people can be manipulated.
NAR	Q10	People see me as a natural leader.
	Q11	I hate being the center of attention. (R)
	Q12	Many group activities tend to be dull without me.
	Q13	I know that I am special because everyone keeps telling me so.
	Q14	I like to get acquainted with important people.
	Q15	I feel embarrassed if someone compliments me. (R)
	Q16	I have been compared to famous people.
	Q17	I am an average person. (R)
	Q18	I insist on getting the respect I deserve.
PSYCH	Q19	I like to get revenge on authorities.
	Q20	I avoid dangerous situations. (R)
	Q21	Payback needs to be quick and nasty.
	Q22	People often say I'm out of control.
	Q23	It's true that I can be mean to others.
	Q24	People who mess with me always regret it.
	Q25	I have never gotten into trouble with the law. (R)
	Q26	I enjoy having sex with people I hardly know.
	Q27	I'll say anything to get what I want.

*(R) indicates reverse scored items.

Appendix G

Sexual Narcissism Scale

Preface: Read each statement and choose the Likert rating that best describes your current attitudes or beliefs. There are no "right or wrong" sexual attitudes. Please answer to the best of your ability.
Response Options: Likert scale ranging from Strongly Disagree – Strongly Agree   Strongly Disagree (1)   2   3   4   Strongly Agree (5)   Prefer not to answer

Q#	Question
Q1	If I ruled the world for one day, I would have sex with anyone I choose.
Q2	One way to get a person in bed with me is to tell them what they want to hear.
Q3	When I want to have sex, I will do whatever it takes.
Q4	I could easily convince an unwilling person to have sex with me.
Q5	I would be willing to trick a person to get them to have sex with me.
Q6	I feel I deserve sexual activity when I am in the mood for it.
Q7	I am entitled to sex on a regular basis.
Q8	I should be permitted to have sex whenever I want it.
Q9	I would be irritated if a dating partner said no to sex.
Q10	I expect sexual activity if I go out with someone on an expensive date.
Q11	When I sleep with someone, I rarely know what they are thinking or feeling.
Q12	It is important for me to know what my sexual partner is feeling when we make love. (R)
Q13	I enjoy sex more when I feel I really know a person. (R)
Q14	The feelings of my sexual partners don't usually concern me.
Q15	I do not usually care how my sexual partner feels after sex.
Q16	I am an exceptional sexual partner.
Q17	My sexual partners think I am fantastic in bed.
Q18	I really know how to please a partner sexually.
Q19	I have been very successful in my sexual relationships.
Q20	Others have told me I am very sexually skilled.

*(R) indicates reverse scored items.

Appendix H

Barratt Impulsiveness Scale-Brief

Preface:
People differ in the ways they act and think in different situations. This is a test to measure some of the ways in which you act and think. Read each statement and select the appropriate response option. Do not spend too much time on any statement. Answer quickly and honestly.
Response Options: Likert scale ranging from Rarely/Never – Almost Always/Always   Rarely/Never   Occasionally   Often   Almost Always/Always   Prefer not to answer

Q#	Question
Q1	I plan tasks carefully. (R)
Q2	I do things without thinking.
Q3	I don't "pay attention."
Q4	I am self-controlled. (R)
Q5	I concentrate easily. (R)
Q6	I am a careful thinker. (R)
Q7	I say things without thinking.
Q8	I act on the spur of the moment.

*(R) indicates reverse scored items.

Appendix I

Sociosexual Orientation Inventory-Revised

Q#	
Preface: Please respond honestly to the following questions.	
Q1	With how many different partners have you had sex within the past 12 months?
	Response options: 0 1 2 3 4 5-6 7-9 10-19 20 or more Prefer not to answer
Q2	With how many different partners have you had sexual intercourse on *one and only one* occasion?
	Response options: 0 1 2 3 4 5-6 7-9 10-19 20 or more Prefer not to answer
Q3	With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?
	Response options: 0 1 2 3 4 5-6 7-9 10-19 20 or more Prefer not to answer
Q4	Sex without love is OK.
	Response options: Strongly disagree 1 2 3 4 5 6 7 8 Strongly agree 9 Prefer not to answer
Q5	I can imagine myself being comfortable and enjoying "casual" sex with different partners.
	Response options: Strongly disagree 1 2 3 4 5 6 7 8 Strongly agree 9 Prefer not to answer
Q6	I do *not* want to have sex with a person until I am sure that we will have a long-term serious relationship. (R)
	Response options: Strongly disagree 1 2 3 4 5 6 7 8 Strongly agree 9 Prefer not to answer
Q7	How often do you have fantasies about having sex with someone you are *not* in a committed romantic relationship with?
	Response options: • Never • Very seldom • About once every two or three months • About once a month • About once every two weeks • About once a week • Several times per week • Nearly every day • At least once a day • Prefer not to answer

Q8	How often do you experience sexual arousal when you are in contact with someone you are not in a committed romantic relationship with?
	Response options: • Never • Very seldom • About once every two or three months • About once a month • About once every two weeks • About once a week • Several times per week • Nearly every day • At least once a day • Prefer not to answer
Q9	In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?
	• Never • Very seldom • About once every two or three months • About once a month • About once every two weeks • About once a week • Several times per week • Nearly every day • At least once a day • Prefer not to answer

*(R) indicates reverse scored items.

Appendix J

Rosenberg Self-Esteem Scale

Preface:
Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

Response Options: Likert scale ranging from Strongly Agree – Strongly Disagree
Strongly Agree   Agree   Disagree   Strongly Disagree   Prefer not to answer

Q#	**Question**
Q1	On the whole, I am satisfied with myself.
Q2	At times I think I am no good at all. (R)
Q3	I feel that I have a number of good qualities.
Q4	I am able to do things as well as most other people.
Q5	I feel I do not have much to be proud of. (R)
Q6	I certainly feel useless at times. (R)
Q7	I feel that I'm a person of worth, at least on an equal plane with others.
Q8	I wish I could have more respect for myself. (R)
Q9	All in all, I am inclined to feel that I am a failure. (R)
Q10	I take a positive attitude toward myself.

*(R) indicates reverse scored items.

Appendix K

Modified Sexual Experiences Survey

Preface:	
We are now going to ask you some questions about your **past** experiences with different types of sexual behaviour. Please answer the following questions by choosing an answer from the options provided.	

Q#	Question	Response Options
Q1	Have you ever fondled, kissed, or sexually touched someone without their permission?	• Yes • No • Prefer not to answer
Q2	Have you ever attempted to make someone have sexual intercourse with you without their permission, but for some reason intercourse didn't happen?	• Yes • No • Prefer not to answer
Q3	Have you ever made someone have oral sex with you without their permission?	• Yes • No • Prefer not to answer
Q4	Have you ever made someone have sexual intercourse with you without their permission?	• Yes • No • Prefer not to answer
Q5	Have you ever made someone have anal sex with you without their permission?	• Yes • No • Prefer not to answer
Q6	Have you ever inserted an object into someone without their permission?	• Yes • No • Prefer not to answer

Appendix L

Attention Checks

Q#	Question	Response Options
Q1	Please select **Yes.**	• Yes • No • Prefer not to answer
Q2	Please select the number **2** on the following scale.	• 1 • 2 • 3 • 4 • 5 • Prefer not to answer

Appendix M

Student Participant Debrief Form

Debrief Form

Thank you for participating in this study!

In this study you answered a series of questionnaires on your experience with sexual images. Specifically, the primary purpose of this research is to determine if people who send and do not send unsolicited sexual images have any characteristic differences. This research will hopefully increase our understanding of the characteristics of senders and non-senders of unsolicited sexual images.

All responses you gave over the course of this study will remain confidential in agreement with the confidentiality agreements the research team has signed. In order to ensure you can withdraw your data at any time during data collection, please make a note of your code word on your copy of the debrief form, or somewhere else where you can easily access it. It is important to note <u>you will need to remember your code word in order to withdraw your data</u>. If at any point in time you would like to withdraw your data, you can contact Dr. Harkins (leigh.harkins@ontariotechu.ca; 905-721-8668 ext. 5991) and provide your code word. After doing so, your data will be removed from the study.

Although we recognize that people have a variety of interests and experiences, it is important to note that any sexual contact in which the other person does not clearly provide consent is illegal. For more information on this, please see http://www.consented.ca.

It would be greatly appreciated if you would keep the details of this study confidential to help us maintain the study's integrity. We do recognize, however, that due to the sensitive nature of the topics discussed in this study, you may feel upset or distressed. If you do feel upset as a result of this study, and feel the need to discuss the study content with a counsellor, please feel free to do so. Your personal health is of the utmost importance! As a research team, we want to ensure you feel supported following study completion. If you should feel distressed, upset, or simply would like to speak to a counsellor about this study, please contact local support services.

- Ontario Tech University Student Life/Mental Health Services:
  - o Phone: 905-721-3392 / Email: studentlifeline@ontariotechu.ca
- General Support Service Example:
  - o Crisis Text Line operates in both the US and Canada: https://www.crisistextline.org/.

If you have any further questions, concerns, or complaints about this study, you may contact Dr. Harkins (leigh.harkins@ontariotechu.ca; 905-721-8668 ext. 5991). Any questions about your rights as a participant, complaints, or adverse events that occurred

during the study can be addressed by the Research Ethics Board through the Compliance Office (researchethics@ontariotechu.ca; 905-721-8668 ext. 3693).

Once again, THANK YOU for your participation in this study!

Community Member Participant Debrief Form

Debrief Form

Thank you for participating in this study!

In this study you answered a series of questionnaires on your experience with sexual images. Specifically, the primary purpose of this research is to determine if people who send and do not send unsolicited sexual images have any characteristic differences. This research will hopefully increase our understanding of the characteristics of senders and non-senders of unsolicited sexual images.

Although we recognize that people have a variety of interests and experiences, it is important to note that any sexual contact in which the other person does not clearly provide consent is illegal. For more information on this, please see http://www.consented.ca.

It would be greatly appreciated if you would keep the details of this study confidential to help us maintain the study's integrity. We do recognize, however, that due to the sensitive nature of the topics discussed in this study, you may feel upset or distressed. If you do feel upset as a result of this study, and feel the need to discuss the study content with a counsellor, please feel free to do so. Your personal health is of the utmost importance! As a research team, we want to ensure you feel supported following study completion. If you should feel distressed, upset, or simply would like to speak to a counsellor about this study, please contact local support services.

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  - Phone: 905-721-3392 / Email: studentlifeline@ontariotechu.ca
- General Support Service Example:
  - Crisis Text Line operates in both the US and Canada: https://www.crisistextline.org/.

Please note, all of the responses you gave over the course of this study will remain confidential in agreement with the confidentiality agreements the research team has signed.

If you have any further questions, concerns, or complaints about this study, you may contact Dr. Harkins (leigh.harkins@ontariotechu.ca; 905-721-8668 ext. 5991). Any questions about your rights as a participant, complaints, or adverse events that occurred during the study can be addressed by the Research Ethics Board through the Compliance Office (researchethics@ontariotechu.ca; 905-721-8668 ext. 3693).

Once again, THANK YOU for your participation in this study!