CONCERNING CORRESPONDENCE: AN EXPLORATORY STUDY INTO THE NATURE AND POTENTIAL LINKS OF ENGLISH CHILD SEX DISCOURSERS' SEXUAL INTERCOMMUNICATIONS, LANGUAGE, AND CONVICTIONS

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Copyright statement

Abstract

The prevalence of child sex offences is worsening worldwide (Bailey, 2021; Internet Watch Foundation, 2021), requiring police within England and Wales to prioritise their responses (National Policing Improvement Agency, 2009). To help gauge possible threats, various computer programmes have been developed which process the electronic communications of persons with child sexual interests (Rashid et al., 2013). Currently, research into such communications and technologies remains relatively nascent (*Ibid*). By identifying communicative features which correspond with persons' offending tendencies, however, these investigative tools can potentially be improved.

Recently, a study of chatroom messages between persons with child sexual interests (i.e., McManus *et al.,* 2015) found non-contact child sex offenders to discuss adult relationships significantly more than contact offenders. In addition, research into chatroom conversations between child sex groomers and their (presumed) victims (i.e., Chiu *et al.,* 2018; Seigfried-Spellar *et al.,* 2019) revealed significant linguistic differences between groomers who sought to commit contact offences and those who did not. As of yet, however, no study has examined whether child sex offending tendencies can be assessed from individuals' vocabulary when communicating with persons sharing child sexual interests. By exploring this possibility, such findings could help refine methods for identifying and prioritising potentially dangerous persons. To build upon past research, therefore, the current study examined the general features within communications between individuals discussing child sexual interests (i.e., *child sex discoursers*). In turn, so did the present study search for (potential) links between persons' child sex offender histories and their communicative themes and specific vocabulary.

Offering their assistance, West Yorkshire Police provided the study with the criminal records and computer mediated communications of 10 convicted child sex offenders. To identify indicators of criminal histories, this sample was sorted into three categories of increasing severity (i.e., *Least Concerning Offenders* (n=2), *Moderately Concerning Offenders* (n=6) and *Extremely Concerning Offenders* (n=2)). Through a combination of Content and Discourse Analyses, 47 communicative themes were identified, including the seven higher-order categories of: *Condition, Sexual Interests, Claims, Fantasies, Pursuits, Caution* and *Justifications*. Ultimately, while no statistical comparisons of identified themes between the study's offender categories could be performed, numerous observations were made, including potential indicators of sex offending behaviours. Moreover, by incorporating linguistic analyses—in addition to examining offenders' communicative themes—statistical tests were conducted on offenders' vocabulary. By using software (i.e., *Linguistic Inquiry Word Count* (2015)) to sort and score the percentages of words categorised by function and (predetermined) themes, the study was able to compare the vocabulary used by the sample's offender categories. In the end, said analyses revealed Extremely Concerning Offenders used significantly fewer verbs and displayed significantly more dominance (i.e., *clout*) than offenders without charges or convictions of attempting or performing physical child sex abuse (i.e., Least and Moderately Concerning Offenders).

Overall, the aforementioned results were considered encouraging, offering unique contributions to the field of research and demonstrating promise for investigative use. Although this study alone cannot assist police reliably identify or prioritise potentially dangerous persons, future research can build off the abovementioned methods and results to aid in such efforts. Ultimately, by continuing to examine the communicative themes and vocabulary of child sex offenders when communicating with likeminded others, such studies could promote the development of new and/or improved investigative computer programmes.

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Key Terms

Chatrooms: communicative webforums where users can exchange written messages, videos and pictures (i.e., posts) in real time, for public and/or private viewing

Child sex discourser (CSD): any individual found to be discussing sexual interests in children

Child sex offender (CSO): any individual with a history of contact of noncontact child sex offences, usually referring to persons specifically charged and/or convicted for said offences

Cognitive Distortions: beliefs, assumptions and/or self-statements which help to allay, rationalise and justify aberrant thoughts and/or behaviours

Computer Mediated Communication (**CMC**): digital exchanges of textual, audio or pictural information to convey messages between electronic devices and/or over the internet

Computer textual analyses (CTA): linguistic software programmes designed to analyse differing attributes within textual files

Contact offences: sexual offences when the perpetrator physically touches the victim

Contact offenders: Individuals convicted of committing at least one physical (child) sex offence

Contact-driven offenders: Persons actively attempting to commit physical, child sexual abuse

Distributing IIOC: Sharing IIOC, digitally or physically

Dual offenders: Sex offenders guilty and/or convicted of both contact and non-contact sexual offences

Extremely Concerning Offenders: Offenders of West Yorkshire Police's sample, convicted of attempting or performing physical sexual abuse against children.

Fantasy-driven offenders: Persons engaged with sexual roleplay and/or online child sex offences, yet who do not attempt to abuse children physically

Filtering software: computer programmes developed to block and/or intercept potentially harmful material online from children

Grooming: any attempts to commit abuse and/or minimise its detection by gaining trust from victims and/or their guardians

Homophily: individuals often associate (knowingly or unknowingly) with persons of similar demographics, interests, opinions, and/or beliefs

Incitement: The methods used by child sex offenders to encourage and/or prompt sexual acts from victims (sometimes considered synonymous with *grooming*)

Indecent Images of Children: pictures and/or videos depicting persons under 18 calendar years old in sexual poses and/or situations

Information and Communication Technology (**ICT**): hardware (e.g., computers, tablets, phones, etc.) and software (e.g., apps, email, text messaging, etc.) developed to send and receive information for communication

Least Concerning Offenders: Offenders of West Yorkshire Police's sample convicted of making, possessing, viewing and/or distributing IIOC

Making IIOC: Downloading or photocopying Indecent Images of Children (IIOC)

Moderately Concerning Offenders: Offenders of West Yorkshire Police's sample convicted of producing IIOC (and other related offences)

Non-contact offenders: Persons having convicted (child) sex offences without physical contact

Paedophilia: a clinical diagnosis, referring to individuals at least 16-years-old with sexual attractions to persons 13-years-old or younger (or at least five years younger than teenage fantasizers) which last at least six months

Possession (of IIOC): To keep/retain digital or physical IIOC

Potentially Dangerous Person (PDP): individuals assessed as posing a concerningly and/or especially high risk to the public

Producing IIOC: Personally taking, recording or streaming IIOC on a camera and/or electronic device

Role-playing: virtual personas assumed within online environments to facilitate anonymous and interactive fantasies/sexual play between actual persons and/or artificial intelligence

Streamlined Forensic Reports (SFRs): Investigative reports and/or evidence (e.g., child sex offender electronic communications) rendered down to the most essential information necessary for charges and convictions.

Toolkits: specialised software to assist investigators process and/or analyse computer mediated communications from and/or between child sex discoursers and/or offenders

Key abbreviations

Anonymity, *Convenience* and *Escape* (ACE) *model*

Antisocial Personality Disorder (ASPD)

Chat Analysis Triage Tool (CATT)

Child sex discoursers (CSDs)

Child sex offender (CSO)

Computer Mediated Communication (CMC)

Computerised text analysis (CTA)

Content Analysis (CA)

Dialogue not otherwise specified (NOS)

Discourse Analysis (DA)

Grounded Theory (GT)

Information and Communication Technology (ICT)

Integrated Theory of Sexual Offending (ITSO)

Internet sex offender (ISO)

Linguistic Inquiry Word Count (LIWC)

Minor-Attracted Adults (MAAs)

Perverted Justice (PJ)

Support Vector Machines (SVMs)

Thematic Analysis (TA)

Dedications and acknowledgments

Even in comparison to the construction of this thesis, settling on an order for my acknowledgments seemed infeasible. Mindful that puzzle pieces have no rank, if possible, I would thank all who have played meaningful parts in my life—whether by providing assistance, inspiration or distractions when most needed. Unable to express everything I desire and all you deserve, however, the least I can do is recognise those who contributed most to this endeavour.

Firstly, to my family, who has become all the more appreciated in our recent years apart—I wish to say that while this thesis is my work, both it and I are the results of all your love and efforts. Indeed, despite my initial aversions to school and reading, it was my mother's dedication to parenting and teaching which impressed upon me the joys and importance of learning. Equally important, it was my father's endurance to his commitments and the dedication to his passions which emphasised to me the importance of one's devotions, even in unfortunate conditions. Further guiding me in such lessons, it is the brilliance, creativity and resilience of my sister which inspires me all the more in what quality and quantity of accomplishments which an individual is capable. Moreover, to my cousin whom I consider more of a brother, it is fair to say that without your friendship and support, I could scarcely have imagined such an adventure. Additionally, I would be remiss not to thank each of my grandparents for helping to provide a childhood anyone would consider fortunate. In particular, however, I would like to dedicate this thesis to my grandmother, Katherine Herrala—who, almost 11 years ago to the day, gifted me the book which introduced me to criminology.

Next, with respects to my educators, I face the enviable issue of having too many whom I owe gratitude. Focusing on those of particular influence, however, I would start with the professor who became my mentor: Dr. Gordon Atlas. With utmost respect and ample regret, I admit that to adequately summarise all the ways you inspired me to take my studies more seriously whilst remembering to laugh would require many more pages and deficient drafts. Suffice it to say, therefore, without your unique blend of eye-opening lessons, sidesplitting digressions and ear-bending conversations, I would not be who I am today. Sharing in such praise, I would like to extend my gratitude to the remarkable staff of Alfred University—who took this former art student's interest in criminology seriously and exposed me to a gamut of intriguing fields of studies. To that point, I would like to thank the staff and guest lecturers at the University of Liverpool, who helped make their Investigative and Forensic Psychology MSc. programme without equal. More specifically, I wish to thank Prof. Louise Almond, whose guidance enabled me to conduct rewarding research and encouraged me to pursue such endeavors further. Naturally, therefore, so do I wish to thank my most recent advisors: Dr. Carla Reeves and Dr. Michelle Rogerson. To put it mildly, given all the endurance required and hurdles encountered throughout this research, it was your unwavering support and assurance which not only got me here but excited me for the future.

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From the bottom of my heart, thank you all.

Part I
Child sex discoursers: Premise and purpose of thesis

1. Introduction: An overview of the focus, framework and format of the current research

Child sex offenders: Contemporary concerns and research

The prevalence of child sex offences within the United Kingdom and abroad is at an historic high, both online and off (Bailey, 2021; Internet Watch Foundation, 2021). As such, police resources within England and Wales are strained, leading the National Policing Improvement Agency (NPIA)[1] to stress the importance of identifying child abuse suspects most likely to commit physical (i.e., *contact*) sex offences (NPIA, 2009). In sum, this guidance states that such assessments are vital to: 'ensure that concerns for children are prioritised and actioned appropriately' (pg.25). Yet, when assessing the threats of (anonymous) individuals online, this requirement can prove especially difficult (Holt et al., 2015; Rashid et al., 2013).

In order to assure suspects' risks of committing contact offences are effectively gauged, the NPIA (2009) instructs investigators to examine all electronic communications legally possible. As one component of identifying potentially dangerous persons, therefore, police are expected to evaluate the computer mediated communications shared between adults with sexual interests in children. To expediate such assessments, law enforcement is increasingly seeking and utilising novel technology. At present, software exists which employs six primary approaches to monitoring and evaluating the electronic communications of persons with sexual interested in children (Rashid et al., 2013). Among these *toolkits* are programmes which process exchanges between persons expressing child sexual interests. In spite of this, however, contemporary efforts

[1] For a list of key terms and abbreviations, see pgs. 11-13.

to analyse said communications reveals such logs are not always retained or fully documented by law enforcement. Moreover, the research and technology examining such exchanges remain nascent and not widely adopted (Rashid et al).

Over recent decades, various studies have provided insights into the nature of communications between persons with sexual interests in children (e.g., Cockbain et al., 2014; Holt et al., 2010; Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quayle, 2010). By and large, these studies reveal such exchanges (whether over electronic devices or in person) commonly contain sexual and non-sexual content, as well as personal details which are known risk factors for contact and non-contact offending. In adition select studies (i.e., Cockbain et al.; Lambert & O'Halloran; Malesky & Ennis; O'Halloran & Quayle), also note the presence of *cognitive distortions* (Bandura, 1977) and *techniques of neutralization* (Sykes & Matza, 1957), which are beliefs, assumptions and/or self-statements helping allay, rationalise and justify deviant thoughts and/or behaviours. Beyond this, McManus et al. (2015) examined whether significant thematic differences exist between the chatroom messages of persons convicted exclusively of non-physical child sex abuse (i.e., *non-contact offenders*) and persons convicted of at least one instance of physical sex abuse (i.e., *contact offenders*). From this research, it was determined that non-contact offenders discussed adult relationships significantly more than contact offenders. Nonetheless, the study's use of Content Analyses limited interpretations of any underlying messages and did not examine offenders' exact use of language. As such, these limitations reveal several gaps in the field of research.

To the abovementioned point, among related literature, studies into textual conversations between persons attempting to sexually manipulate children (i.e., *child sex groomers*) and their (presumed) victims have demonstrated promising methods for identifying (potential) contact

offenders (e.g., Chiu, Seigfried-Spellar, Ringenberg, 2018; Drouin et al., 2017; Pendar, 2007; Parapar, Losada, Barreiro, 2012; Seigfried-Spellar et a., 2019). By analysing the vocabulary of child sex groomers, divided into groups of offenders who did and did not seek to physically abuse children offline, Chiu, et al. and Seigfried-Spellar et al. found statistically significant linguistic features displayed by individuals who sought to commit contact offences. As of yet, however, no research has attempted to apply these findings or methods to assessing the intercommunications between adults discussing sexual interests in children.

Current study: aims, methods and findings

To build upon the abovementioned literature, the current research endeavoured to examine the thematic and linguistic features of computer mediated communications, shared between adults with sexual interests in children. More specifically, when considered along with persons' child sex offence histories, said analyses would (theoretically) help assess the potential of using communicative themes and vocabulary to gauge individuals' sex offending tendencies. By extension, the present study would also consider how its methods and findings might apply to the development of investigative software. In brief, therefore, the aims of this research were as follows:

i. Discern communicative themes within the computer mediated communications shared between adults with sexual interests in children
ii. Examine subjects' vocabulary and the efficacy of utilising linguistic analysis software to process written, electronic communications between adults with sexual interests in children
iii. Assess potential relationships between individuals' child sex offending tendencies/ severity and features within their electronic intercommunications
iv. Consider how communicative themes and vocabulary might be used within investigative tools

In order to achieve these goals, the study required data on the convictions and communications of known child sex offenders (CSOs). In the end, West Yorkshire Police graciously provided such information, offering (usable) criminal records and samples of chatlogs in relation to 10 CSOs. However, upon review, it was found that several chatlogs came in the form of *Streamlined Forensic Reports* (SFRs): abridged transcripts containing only what information is deemed most relevant for conducting investigations and/or securing convictions. Ultimately, therefore, this study limited its analyses to CSOs' sexual comments—given that such content was selectively and preponderantly recorded within the sample's SFRs. With regards to identify potential thematic and linguistic indicators of individuals' criminal behaviour, the 10 offenders were ultimately sorted into three categories, based on the nature of their most serious convictions.[2] Subsequently, as with past studies (i.e., Linehan et al., 2001; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quale, 2010), part of this research involved performing Content Analyses, to identify communicative themes within the offenders' chatlogs. Along with said examinations, however, unlike previous research, this study also performed Discourse Analyses, to better account for the context and syntax of offenders' communicative themes. Beyond this, this study used the software *Linguistic Inquiry Word Count* (2015) to sort examine offenders' vocabulary and performe statistical tests to compare the language of the sample's offender categories. Lastly, the aforementioned qualitative and quantitative components of the research were examined together.

In the end, this study's Content and Discourse Analyses produced 47 (sexual) communicative themes, including the seven encompassing higher-order categories of: *Condition, Sexual Interests, Claims, Fantasies, Pursuits, Caution* and *Justifications*. By and large, the

[2] For clarification regarding this study's offender categories (i.e., *Least Concerning Offenders* (n=2), *Moderately Concerning Offenders* (n=6) and *Extremely Concerning Offenders* (n=2)), see pg.143 herein.

themes identified by the present study echo those previously reported among similar studies e.g., Cockbain et al., 2014; Holt et al., 2010; Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quayle, 2010), with select themes and tones found among WYP's sample determined to be relatively distinct and/or unique. To this latter point, several interesting observations were gleaned regarding differences in tone, context and subtext of comments between this study's offender categories. Additionally, with respects to the study's linguistic analyses, the combination of Brown-Forsythe tests and post hoc analyses (i.e., Games-Howell tests) revealed the sample's most concerning offenders used significantly fewer verbs and display significantly more dominance (i.e., *clout*) than moderately concerning, but not the sample's (relatively) least concerning offenders. As such, these findings provide unique contributions to the field and demonstrate promise for investigative use.

Overview of thesis: content and structure

In order to discuss the abovementioned analyses, this thesis is structured into five primary sections (see Table 1.1, pg.23). Firstly, Part I of this thesis will focus on the incentives and inspirations for the current research. More specifically, Chapter 2 will provide an overview into the natures and relations of *computer mediated communications* and sexual behaviours to address how such matters pose challenges for investigators. Afterwards, Chapter 3 will critique literature into the online cultures and communications of persons with sexual interests in children. At this same time, so will this discussion examine research into whether it may be possible to distinguish between contact and non-contact child sex offenders online, based on themes within their intercommunications (i.e., McManus et al., 2015). In turn, so will it be considered how such information might be used to identify potentially dangerous individuals (i.e., contact offenders).

Next, within Part II of this thesis, the discussion will focus on various research approaches considered, particularly in relation to examples set by relevant studies. To begin, Chapter 4 will examine this study's underlying philosophy and alternative schools of thought, while also clarifying the aims and intentions of the researcher. Subsequently, Chapter 5 will detail this study's methods, data and design, along with reassessing the researchers' aims and addressing crucial limitations.

For Part III, this thesis will detail the study's qualitative analyses into the thematic categories of child offenders' computer mediated communications (i.e., texts, emails, instant messages, etc.). In so doing, Chapter 6 will provide definitions, examples, and potential explanations for all 47 identified communicative themes. After which, Part IV of this thesis will pivot to the study's quantitative component.

Chapter 7, therefore, will provide a literature review into linguistic research, first focusing on studies which have assess the vocabulary of child sex groomers when communicating online with (potential) victims. In turn, so will the thesis recognise one of the present study's unique contributions to this field: exploring how linguistic analyses might help assess and/or distinguish between differing categories of child sex offenders, based on their communications with others expressing sexual interests in children. Likewise, so will it be examined how psycholinguistics can potentially help assess the mental states and potential risk of persons discussing sexual interests in children. Moreover, within Chapter 8, the researcher will acknowledge the computer programmes considered for this study's linguistic analyses. Afterwards, this chapter will detail which statistical tests were used to contrast the vocabulary of this study's offender categories, before discussing the results of these tests.

To conclude, Part V of this thesis will entail the study's final phase, with Chapter 8 considering the results of its qualitative and quantitative components together. In that way, a more thorough understanding can be provided. Subsequently, Chapter 9 will review this study's qualitative and quantitative findings, focusing on its most salient observations in relation to common and uncommon features within offenders' intercommunications. At this same time, so will Chapter 9 iterate what thematic and linguistic findings show the most promise for distinguishing and assessing offenders among CSDs. From there, this last chapter will conclude by recognising the limitations to the study and addressing implications for future research and potential use within investigations.

Table 1.1: Structure of thesis

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2. Contact: Relationships between text, sex and offences

Key terms and abbreviations

Anonymity, Convenience and *Escape* (ACE) *model*
Child sex discoursers (CSDs)
Child sex offender (CSO)
Computer Mediated Communication (CMC)
Information and Communication Technology (ICT)
Integrated Theory of Sexual Offending (ITSO)
Internet sex offender (ISO)
Minor-Attracted Adults (MAAs)

Section 1: Computer Mediated Communication and Child Sex Discoursers

Information and Communication Technology: General nature and trends

Global demand for internet access increases annually (Holt et al., 2015). As of March 2021, approximately 5.17 billion individuals used the internet, making for a 1,331.9% surge since the year 2000 (Internet World Stats, 2021). In turn, the development and use of relevant hardware and software (i.e., *Information and Communication Technology*,[3] ICT), has proliferated exponentially (Jenks, 2014). Largely responsible for such trends is the internet's *Triple A Engine*, which refers to the technology's (relative) accessibility, affordability, and anonymity (Cooper, 2002). Owing to said features, not only does ICT and/or resulting *Computer Mediated Communication* (CMC) enable individuals to converse more easily, but with minimal risk of consequence (Cooper, 1998; Young, 2008). As a result, for better and for worse, so are people increasingly able to connect with others similar to themselves (Baccara & Yariv, 2013).

Inherently relating to a phenomenon known as *homophily*, research into interpersonal relationships, both online and off, has found people to predominately associate (knowingly or

[3] See pages 11-13 for glossary of key terms and abbreviations, as needed.

unknowingly) with others of similar demographics, interests, opinions and/or beliefs (Baccara & Yariv, 2013; McPherson, Smith-Lovin, & Cook, 2001). Offering a partial explanation for this tendency, Reis and Shaver's (1988) *intimacy model of friendship* notes that by disclosing personal information and receiving or offering supportive responses (i.e., *self-revelation*), individuals can develop significant interpersonal bonds. By communicating with likeminded persons online, therefore, individuals are all the more able and willing to connect with others (Young, 2001; 2008). Allowing users to exchange written messages and pictures (i.e., *posts*), in real time or at individuals' leisure, among the many platforms facilitating such communications are those of most interest to this thesis: *chatrooms* (Malesky, 2007).

Chatrooms: Amenities, use and effects

Since their advent decades ago, chatrooms have remained moderately popular, particularly in western culture (Holt et al., 2015). That said, as other forms of CMC have become more prevalent and/or mainstream, societal preference for and/or interest in chatrooms has declined (Jenks, 2014). Nonetheless, owing to amenities such as multiplayer computer games, virtual worlds and/or *role-playing*,[4] use of such platforms has experienced a resurgence (Jenks). With respects to what populations engage with such websites, aside from those able to afford and/or access the technology, no sociodemographics are found to dominate chatroom users (Young, 2008). More specifically, although initial use of novel ICT typically propagates among youth, over time, CMC (such as chatrooms) can proliferate among all age groups (Holt et al.).

[4] Role-playing: assuming virtual personas within online environments to facilitate anonymous and interactive fantasies/sexual play between actual persons and/or artificial intelligence (see Reeves, 2018).

Expounding upon the principle of the internet's Triple A Engine (noted above), Young (2001) has since proposed that the popularity of chatrooms can be explained by their study's *ACE model*. Named after the *anonymity*, *convenience* and sense of *escape* which such websites are found to provide, the model proposes that the ability to conceal one's identity can reduce peoples' inhibitions. By anonymously messaging individuals and/or groups, chatroom users can initiate and/or participate in dialogues otherwise avoided. To this point, because anonymous posts can help to obscure signs of insincerity, disapproval or judgment, this too can increase chatroom users' sense of comfort (Young 2001; 2008). Given CMC's long-distance nature, in other words, messengers can disclose typically confidential information without being questioned or needing to question others, thereby accelerating feelings of comradery (Young 2001; 2008). As such, chatrooms are recognised as having come to provide virtual *back places* (see Goffman, 1963): where subcultures can disregard social stigmas to find information, advice and kinship in generally supportive environments (Durkin, Forsyth & Quinn, 2006; Quinn & Forsyth, 2005; Song, 2002). Most relevantly, this includes exploring and expressing sexual interests and attitudes less acceptable in the mainstream (Holt et al., 2015; Young, 2008).

Diverse and accommodating, websites which cater to persons' sexual interests constitute for the largest segment of the electronic commerce (Jaychandran, 2006, as cited in Young, 2008). With regards to online pornography alone, even years ago, the industry was valued at approximately $57 billion dollars worldwide —far exceeding most other major businesses (Jaychandran, as cited in Young). Additionally, among all known websites, roughly 25% have been identified as pornographic, surpassing 327 million in total (Ropelato, 2006, as cited in Young). In turn, while exact figures remain unknown, sexual chatrooms are estimated to be

abundant and multiplying (Holt et al., 2015); their uses ranging from developing sexual dialogues and fictions to engaging in cybersex and/or virtual affairs (Young, 2008).

In order to understand the development of modern (deviant) sexual subcultures, some contemporary researchers (e.g., Holt et al., 2015; Quinn & Forsyth, 2005) have found insight within a relatively dated concept. Prior to the Information Age, Howard Odum (1937; 1947) proposed that societal habits and customs change as people's behaviours, values, and goals adjust to technological advancements. These changes, termed technicways, rapidly replace existing norms owing to their novelty, efficiency, and research-oriented origins. When combined, these factors can provide rationalised justifications for change while defying previously accepted authority and traditions. As technicways alter and/or replace previous norms, therefore, early use of new technology remains morally and legally ambiguous, thus requiring societies develop ethical frameworks regarding how untraditional tools and/or amenities should be used to attain more traditional goals (Odum, 1964; Vance, 1972). Today, with information and communication technology providing copious methods to explore and discuss (aberrant) sexual desires, the use of websites such as chatrooms can push legal bounds (Holt et al., 2015). While the concept of technicways has been criticized to be overly romanticized and lacking formal research (Vance, 1972), therefore, when examining sexual subcultures online, understanding the basic theory has proven valuable (Quinn & Forsyth, 2005). To this point, by examining how the internet affects human behaviour, researchers are better able to understand the process and motives of individuals joining sexual subcultures online as new technologies develop.

With respects to persons' motives for joining sexual chatrooms, in addition to arousal, Young's (2008) examination of *internet sex addicts*[5] reports that, among their sample (details unspecified), a common desire was to allay negative emotions; such as: stress, sadness, aggravation and more. Similarly, in preceding research into addictions, Peele and Bronsky (2000) found that desires to engage in sexual CMC can act equivalent to using drugs and alcohol to find distractions and/or fill emotional voids. Indeed, over the years, additional studies have offered supporting evidence (e.g., Ko et al. 2009; Ko et al. 2012; Kuss et al., 2014; Lee et al., 2013; Leung & Lee 2012; Young 2010, etc.).

Beyond a reduction in negative emotions, however, Young (2008) also found increases in positive feelings (i.e., confidence, excitement, desirability, etc.) commonly reported within their sample. Relatedly, in addition to increases in positive emotions, the aforementioned study reports that subjects who struggled with relationships offline would alternatively and/or preferably interact with others virtually. While some persons may feel unwelcome or misunderstood offline, the internet can allow for them to interact in relative comfort (Young). With this said, however, what makes the nature of chatrooms potentially problematic is how such CMC accommodates individuals with sexual attractions toward children.

Across much of the world, persons with sexual attractions to individuals below legal ages of consent are found to be among the most stigmatised, often being equated to sexual offenders by the public and the police (O'Halloran & Quayle, 2010). Consequently, for such individuals, concealing their sexual interest is of utmost concern, resulting in feelings of loneliness and/or a desire to escape from issues they face/perceive offline (O'Halloran & Quayle). As shall be

[5] Currently, there are two main forms of clinical addiction (i.e., *substance and non-substance types*), distinguished between material and behavioural dependencies. Yet, despite the DSM-5 acknowledging the potential of internet sex addiction (i.e., *Internet Gaming Addiction*), no such diagnosis has been officiated (see Poli, 2017).

reexamined later, therefore, individuals with sexual interest in children are regularly observed to use CMC to help cultivate relationships with likeminded others (Holt et al., 2015; Young, 2008). Indeed, for decades, such individuals have been known to converse on public and private chatrooms (e.g., Durkin, 1997; Lamb, 1998). Over time, their presence has only increased (Holt et al.), including persons who also commit physical abuse. Before discussing what relationship chatrooms have with sexual offending, however, it is important to clarify several key terms.

Essential terminology

As outlined within the Sexual Offences Act (2003) of England and Wales, crimes of such nature cover both physical and non-physical infringements upon persons' (sexual) will, rights or general wellbeing—as determined by victims' lack of consent (see Table 2.1, pg.30). Relatedly, within said legislation, as well as the Protection of Children Act (1978) and Children Act (2004), the concept of a *child* refers to persons under the age of 16 calendar years, and is therefore deemed unfit to provide consent.[6] However, to that point, for charges relating to *Indecent Images of Children* (IIOC), the term 'child' extends to persons under 18 calendar years of age. Accordingly, for the purposes of this research, the concept of 'child' will be likewise defined as persons less than 18 years-old.

[6] For specifics, see the Sexual Offences Act (2003) https://www.legislation.gov.uk/ukpga/2003/42/contents; the Protection of Children Act (1978): https://www.legislation.gov.uk/ukpga/1978/37 and the Children Act (2004): https://www.legislation.gov.uk/ukpga/2004/31/contents.

Table 2.1: Examples of sex offences (as recognised within England and Wales)

General Category	Offence	Brief Description
Non-contact offences	Making IIOC	Downloading or photocopying Indecent Images of Children (IIOC)
	Producing IIOC	Personally taking, recording or streaming IIOC on a camera and/or electronic device
	Distributing IIOC	Sharing IIOC, digitally or physically
	Possessing IIOC	To keep/retain digital or physical IIOC
Contact offences	Rape	To penetrate a bodily cavity or someone without their awareness and/or consent with one's phallus
	Assault by penetration	To penetrate a bodily cavity or someone without their awareness and/or consent with part of one's body and/or an object
	Sexual assault	To sexually touch someone without their awareness and/or consent

With this said, because alternative definitions to those provided above are common across sources and cultures (see Jehle, 2012), it is important to assure that the descriptions adopted herein were mindfully chosen. To clarify, as further discussed in Chapter 5, because this study's data includes information on convicted child sex offenders provided by West Yorkshire Police (WYP)—who themselves defer to the abovementioned legislation—it was reasoned that to use this same guidance was most appropriate. Additionally, despite sources' inconsistencies regarding what constitutes 'children' and/or 'sexual offences', the central premise that certain demographics are too young to consent to sexual activity is shared across cultures. Thus, in the context of discussing the existence and issue of persons who commit child sexual offences, this study's adopted definitions should remain fundamentally comparable to other sources. However, with regards to labels assigned to individuals with child sexual offending interests and/or histories, more specification is needed.

For persons who commit sexual crimes against children, the term *child sex offender* (CSO) is commonly used (see Table 2.2 pg.31). Given that discussing sexual attractions to

children is not (in and of itself) illegal within England and Wales,[7] however, to label persons expressing such interests as 'offenders' is presumptive. Indeed, as examined later herein (see pgs. 164-165), although conversations between persons discussing sexual interests in children are regularly monitored by police, such chatlogs are not routinely documented as (auxiliary) evidence in cases of abuse. By extension, the appropriateness of using alternative terms can be similarly challenged. Even when applying labels to known offenders, the various forms which child sex abuse can take has produced numerous terms which can interrelate (see below).

Table 2.2: Subcategories of child sex offenders

Term	Definition	Source
Child sex offender (CSO)	Persons who are convicted of sexual crimes against individuals too young to legally consent to sexual acts (i.e., children).	Cockbain, Brayley, Sullivan, 2014; Fortune, Bourke, Ward, 2015; McManus et al., 2015; Pithers, Marques, Gibat, Marlatt, 1983; Sheehan & Sullivan, 2010, etc.
Contact offenders	Individuals convicted of committing at least one physical child sex offence.	Elliott, Beech, & Mandeville-Norden, 2013; McManus et al., 2015
Non-contact offenders	Those having been convicted of sexual offences against children without physical contact (e.g., voyeurism, indecent exposure, viewing IIOC, etc.).	Brigs, Simon, & Simonsen, 2011; Canter, Hughes, & Kirby, 1998; McManus et al., 2015; Seto et al, 2011
Dual offenders	Individuals convicted for both contact and non-contact offences.	Elliott et al., 2013; Sheldon & Howitt, 2008; McManus et al., 2015
Internet sex offender (ISO)	Offenders who sexually exploit children online (by accessing, producing, and/or distributing IIOC as well as grooming children into engaging in online and/or offline sexual acts.	Briggs, Simon, & Simonsen, 2011; Sheehan & Sullivan, 2010
Internet chatroom sex offender	Offenders who groom children using chatrooms.	Briggs et al., 2011
Non-contact fantasy offenders	Persons who are convicted exclusively for non-contact child sex offences.	McManus et al., 2015
Contact-driven offenders	Persons actively attempting to commit physical, child sexual abuse.	Briggs et al., 2011; McManus et al., 2015
Fantasy-driven offenders	Persons engaged with sexual roleplay and/or online child sex offences, yet who do not attempt to abuse children physically.	Briggs et al. 2011; Chiu, Seigfried-Spellar, Ringenberg, 2018; Drouin, et al., 2017; Seigfried-Spellar et al., 2019; McManus et al., 2015; etc.

[7] Provided such comments do not incite offending or breech obscene publication laws (see the *Obscene Publications Revised Legal Guidance*: https://www.cps.gov.uk/legal-guidance/obscene-publications.

Building off of the abovementioned points, the term *paedophile* is another commonly applied label used in reference to persons who electronically discuss sexual interests in children. (e.g., Jenkins, 2001; Lambert & O'Halloran, 2008; O'Halloran & Quayle, 2010; Wolak, Finkelhor, & Mitchell, 2004). To this point, Holt, Blevins and Burkert (2010) reason that because persons discussing child sex interests online are using websites created for such purposes, the term paedophile is appropriate. Be that as it may, paedophilia is a clinical diagnosis, referring to individuals at least 16-years-old with sexual attractions to persons 13-years-old or younger (or at least five years younger than teenage fantasizers) which lasts at least 6 months (Diagnostic Statistical Manual 5, 2013). As acknowledged when justifying their use of the term paedophile, however, Holt et al. state that it was 'difficult to discern how long individuals had been interested in or attracted to children' (p.7). Moreover, as the authors' own analyses reveal, some chatroom messengers claimed not to be (exclusively) attracted to persons under 13-years-old. [8] Indeed, beyond to the term paedophilia, it is worth noting that various classifications of age-based sexual preferences are recognised (see Table 2.3, pg.33). Importantly, upon examining 685 males found guilty of possessing sexual images of children, Seto, Cantor and Blanchard (2006) did find a vast majority to be diagnosable paedophilic or *hebephilic*. Yet, when unable to confirm of the required criteria to diagnose individuals, using such labels is assumptive—even when chatroom users refer to themselves as such (see O'Halloran & Quale).

[8] From one chatroom user: 'My AoA [Ages of Attraction] is no younger than 5 for boys but 12 to 16 for girls (p11).

Table 2.3: Categories of age-based sexual preferences (see Tanner, 1978)

Stages	Description	Typical age range	Preference
First	No development of secondary sex characteristics	Under 11 (prepubescent)	*Paedophile*
Second	Females: breasts develop and areola begin to widen. Males: genitalia change Both: small amount of pubic hair growth.	11 (pubescent)	*Hebephilia*
Third	Females: breasts continue to develop, past areola. Male: penis starts to lengthen and gonads mature. Both: coarser pubic hair	12-14 (pubescent)	*Hebephilia*
Forth	Females: greater breast development, areola and nipple become prominent Males: testicular and penile volume grow Both: pubic hair extends across and/or past pelvis	15-16 (adolescent)	*Ephebophilia*
Fifth	Both: secondary sex characteristics fully matured	17+ (sexually mature)	*Teleiophilia*

Note: The descriptions of sex characteristics herein have been paraphrased from the primary source (i.e., Tanner, 1978), as within Blanchard et al. (2009). However, it is recognised that human sexual development and/or identity is exceedingly more nuanced than summarised (see O'Halloran, 2020).

In addition to adopting the label of paedophile, so are persons on child sex chatrooms often found to use self-descriptors, such as: *boy lovers, girl lovers* and/or *child lovers* (Holt et al., 2010; Malesky & Ennis, 2004). Owing to the overly mitigating and/or romanticising nature of such labels, however, to adopt them herein was immediately rejected. Likewise, while persons on child sex chatrooms have also been found to refer to themselves as *Minor-Attracted Adults* (MAAs), the term implies an exclusive attraction to children, which (as later discussed) is not always true (see Holt et al.). Thus, the label of MAA was rejected for this thesis as well.

With none of the above-mentioned terms referring to persons discussing child sexual interests (on chatrooms) deemed entirely appropriate for this study, it was the position of the present research that a new label needed to be adopted. Thus, regardless of individuals' offending histories and/or psychological diagnoses, it was ultimately determined that all persons who discuss sexual interests in children shall hereinafter be referred to as *child sex discoursers*

(CSDs). Yet, with that being said, so is it important to clarify that this study will likewise use several of the above-mentioned terms (e.g., child sex offender, dual offender, contact offender, etc.) when referring to such individuals specifically.

Section 2: Child Sex Discoursers and Child Sex Offenders

Introduction

As recently discussed, Computer Mediated Communication (CMC) has facilitated novel means of developing long-distance, anonymous relationships, capable of providing a sense of escape and/or improvement, relative to individuals' life offline (Holt et al., 2015; Young, 2008). With regards to persons sexually interested in children, this can prove especially appealing (O'Halloran & Quayle, 2010). Despite child sex chatrooms remaining legal within England and Wales, therefore, such platforms are often monitored by law enforcement to identify illicit content and potentially abusive users. Yet, as time and research indicate (see Rashid et al., 2013), such tasks are greatly complicated by a myriad of factors, including the number of CSDs contributing to a forum, the unique nature of each (online) community and any technological developments. To understand the dynamic relationship between CMC, CSDs and child sexual offences, therefore, it is imperative to (briefly) review the phenomena's extent and overlap.

Prevalence and proportion of offenders

Pertaining to samples of American males, anonymous surveys have found 3-5 % of participants to report some sexual attraction to prepubescent children—with subgroups claiming to have acted on said interests (Seto, 2008a; 2008b). More specifically, within the United Kingdom, conservative estimates indicate approximately 300,000 adults have and/or are

experiencing sexual attractions to children (Bailey, 2021). Out of this group, regrettably, what percentage of individuals also commit child sexual offences (hereinafter 'offences') remains unknown. Yet, even so, whatever the exact proportion of overlap between CSDs and CSOs may be, statistics consistently indicate the problem to be rapidly worsening (Holt et al., 2015; Rashid et al., 2013). To this point, in regards to especially contemporary complications, recent global requirements to isolate within personal residences due to the Covid-19 pandemic have exacerbated child sexual abuse by providing more internet use and/or victim access (Bailey).[9] As evidence of this, between 2019 and 2020, a substantial increase in individuals seeking professional aid for sexual attractions to children was reported (Bailey). More recently, the Internet Watch Foundation (2021) identified 153,383 UK-based platforms hosting child sexual abuse imagery, making for an unprecedented 16% swell. Equally harrowing and just as recently, the UK was also ranked among the three most prolific consumers of child sex abuse videos streamed from the Philippines (Bailey).

Taken together, the statistics above indicate that both the presence of CSDs online and the prevalence of CSOs among their numbers are simultaneously rising. Yet, to what extent the two groups overlap remains unknown. For a rough estimate, despite not directly examining samples of CSDs, Eke, Seto, and Williams' (2011) analyses of 541 male child sex offenders found that within 4.2 years 32% reoffended, 4% were charged with new contact offences, 2% were charged historic contact offenses (i.e., crimes which occurred before their initial conviction) and 7% were charged with new offenses for accessing sexual media of children. Upon similarly assessing the prevalence and risk levels of non-contact CSOs committing

[9] With 66% of all identified cases of child sexual abuse found to be interfamily within the UK, before the pandemic, victims who would normally have hours away from their abuses each day were isolated in quarantine (Bailey, 2021).

physical abuse, however, other studies have found inconsistent and wide-ranging results (Henshaw, Ogloff & Clough, 2018). Relatedly, given the complexity of child sex offences, debate remains even over whether the category of internet child sex offender warrants such distinction or merely pertains to the technicway of non-contact CSOs using new resources to perpetrate their crimes (see Cooper, 1998; Middleton, 2009; Quayle et al., 2000; Rashid et al., 2013). To this point, the existence of non-contact CSOs (defined in Table 2.1) long predate the internet. Yet, with the development of ICT, offenders are constantly afforded novel means of directly and indirectly seeking and/or abusing victims (Holt et al., 2015).

When analysing CSDs known to have actively attempted to commit physical offences (i.e., *contact-driven CSOs*) and CSDs without histories of attempting to commit physical offences (i.e., *fantasy-driven CSOs*), Briggs et al. (2011) manage to provide insight into the nature and frequency of their actions on chatrooms (see Table 2.4). In addition to the study's age and moderately sized and diverse sample, however, the generalisability of Briggs et al.'s findings is limited for multiple reasons, including: 1) categorising subjects based on proven and claimed, 2) not accounting for acts on private/exclusive CSD forums and 3) omitting actions of adolescent CSOs. Nonetheless, for a rudimentary insight, the study bears consideration.

Table 2.4: CSD-victim chatroom interactions (as presented in Briggs et al., 2011 p.84)

Chatroom behaviours	Total sample (*N* = 51)	Contact-driven (n = 30)	Fantasy-driven (n = 21)
Online meeting place			
• Online chat room (live)	49 (96.1%)	28 (93.3%)	21 (100.0%)
• MySpace (offline messages)	2 (3.9%)	2 (6.7%)	0 (0.0%)
Confirmed victim's age (during chat)	51 (100.0%)	30 (100.0%)	21 (100.0%)
Sexually explicit conversations (chat) initiated by offender	51 (100.0%)	30 (100.0%)	21 (100.0%)
Sent victim nude photos (of self)	35 (68.6%)	18 (60%)	17 (81.0%)
Subject masturbated during chat	21 (41.2%)	5 (16.7%)	16 (76.2%)
Engaged victim in cybersex	19 (37.3%)	2 (6.7%)	17 (81.0%)
Attempted to teach victim sexual behaviours	18 (35.3%)	4 (13.3%)	16 (66.7%)
Offender lied about his age			
Inquired if victim was a police officer	9 (17.6%)	6 (20.0%)	3 (14.3%)

Asked victim to keep relationship secret	19 (37.3%)	11 (36.7%)	8 (38.1%)
Offered to pay for sex	30 (58.8%)	19 (63.3%)	11 (52.4%)
Scheduled face-to-face meeting	4 (7.8%)	4 (13.3%)	0 (0.0%)
Attempted to meet victim	31 (60.8%)	28 (93.3%)	3 (14.3%)
Contact sex offense	27 (52.9%)	24 (80.0%)	3 (14.3%)
Exhibitionism on web camera (projected to victim)	4 (7.8%)	4 (13.3%)	0 (0.0%)
Sent victim online pornography	16 (31.3%)	2 (6.7%)	14 (66.7%)
Relationship duration prior to meeting or arrest (days)	2 (3.9%)	0 (0.0%)	2 (13.3%)
• Less than 24 hr			
• Less than 1 week	21 (41.2%)	14 (46.4%)	7 (33.3%)
• Less than 1 month	13 (25.5%)	7 (23.3%)	6 (28.6%)
• Less than 3 months	10 (19.6%)	8 (26.4%)	2 (9.5%)
Greater than 3 months	3 (5.9%)	0 (0.0%)	3 (14.3%)
	4 (7.8%)	1 (3.3%)	3 (14.3%)

As the table above shows, approximately one third of CSDs in Briggs et al.'s (2011) study attempted to physically meet (i.e., abuse) children whom they spoke with online. Owing to police intervention, however, it is unknown how many of such efforts would have resulted in contact offences. Yet, if the examination of multiple police agencies by Wolak et al. (2004) is any indication, their study revealed that out of 612 cases where online offenders met victims in real-life, 89% resulted in physical, sexual acts. Worse still, with only around 50% of persons reported for rape resulting in arrests, and only 80% of those charged getting prosecuted—out of which only 58 % are convicted— only a minority of rapists are ultimately sentenced (Rape, Abuse, & Incest National Network, 2010). Resultantly, such lapses in justice may significantly impact current estimates of what percentage of physical meetings between children and CSDs result in abuse. Because most contact-driven CSDs are found to be candid with (potential) victims about their desire for sex, moreover, this may leave children doubting if any physical contact they had with offenders was actually criminal and/or worth reporting (Phenix & Hoberman, 2015; Wolak et al.).

With regards to relations between accessing indecent images of children and contact offending specifically, research indicates that anywhere from 1% to 84.5% of IIOC consumers

also physically abuse children (c.f., Endrass et al., 2009; Bourke & Hernandez, 2009). Whether these disparities are due to differences between the studies' samples[10] or other factors, however, remains unknown. As a result, the abovementioned statistics indicate a seemingly tenuous relationship between online and offline behaviour. Relatedly, to the best of the researcher's knowledge, no study has directly examined and/or measured the amount of overlap between contact offending and discussing child sexual interests with likeminded individuals. Given this oversight, in order to understand and estimate the effects which child sex chatrooms may have on their users, it is important to briefly review research on related matters.

Potential effects of Computer Mediated Communication

Interested in examining potential relationships between online and offline activity, Krueger, Kaplan and First (2009) referred to the DSM-TR-1V to identify and/or diagnose 60 American, male sex offenders. In their efforts, the researchers found that out of the 22 subjects convicted of attempting to meet children in real-life, 36% (n=8) showed signs of an addiction to the internet for sexual stimulation (i.e., *cybersexual dependence*).[11] Significantly, this (unofficial) diagnosis was unique among the study's sample of contact-driven CSOs. Moreover, while cybersexual dependence is not currently a formal, clinical diagnosis, the characteristics associated with its concept are often linked to recognised sexual proclivities and/or disorders (i.e., *paraphilias*), including *hypersexuality* and attractions to underage individuals (Phenix & Hoberman, 2015). As such, it is reasonable to conclude that a of proportion of CSDs also exhibit

[10] Referring to the 231 Swiss prisoners studied in Endrass et al., (2009) and 155 American prisoners examined by Bourke and Hernandez (2009).

[11] Otherwise labelled *Internet addiction disorder, pathological internet use* (PIU), *problematic Internet use, excessive Internet use, Internet dependence, compulsive computer use* and *virtual addiction*. Also currently proposed under *Internet Gaming Disorder* within the DSM-5 (see Poli, 2017).

cybersexual dependence. By extension, in order to better assess whether chatrooms primarily attract or produce contact-driven CSOs, it is important to consider how the internet influences cybersexual addicts.

Currently, research examining whether CMC can foment desires to commit contact child sex offences remains ambiguous. In relation to the virtual simulation of child sexual abuse through video and/or text (i.e., *ageplay*), studies have shown little to no indication of impacts on individuals' offline behaviours (see Reeves, 2013). To this point, after conducting 290 anonymous interviews with individuals claiming to have sexual attractions to children, Riegel (2004) found that 84% of respondents stated viewing IIOC online substituted for offending, while 84.5% maintained that IIOC did not increase their desires to offend. Beyond this, some researchers even postulate that fantasising can act as a catharsis, decreasing individuals' drives to offend (e.g., Calcetas-Santos, 2001; Krone, 2004). When considering CMC's potential effects on offending behaviour, therefore, it is also essential to consider the impacts of corresponding sexual fantasies.

Potential effects of fantasies

When considered together, studies into sexually[12] charged fantasies indicate that such imaginings can affect individuals in differing ways and/or serve various functions (Bartels & Gannon, 2011; Mar, Mason & Litvack, 2012). With respects to potential detriments, Schupak and Rosenthal (2009) found that people report feeling increased stress while fantasising (even about positive content) if said thoughts are beyond their control. Furthermore, Krott and

[12] Because a distinction is made between physical *arousal* and psychological *desire*, debate remains over what elements to include when defining the term *sexual* (see Bartels & Gannon, 2011). Herein, however, the term shall refer any thoughts, stimuli and acts which the parties involved interpret as having an erotic and/or explicit tone.

Oettingen (2018) similarly report some individuals to experience disappointment, regret and resentment when fantasising about alternative realities/lives. Yet, within this same study, Krott and Oettingen also note how fantasising helped inspire and embolden some subjects about the future. Indeed, by and large, studies similarly examining the effects of fantasising indicate such mental processes can alleviate not only emotional and physical distress (e.g., Frick et al., 2008; Singer & Antrobus, 1972; Rowe, 1963) but boredom as well (Fisher, 1987). Crucially, it has also been found that persons who desire to be included within a community often find personal benefit in contributing to the group dynamics (Baccara & Yariv, 2013). To this point, research into the dynamics of group fantasies (Bales, 1970; Bormann et al. 1997; Cragan and Shields 1981; Olufowote, 2006; Weick, Sutcliffe, & Obstfeld, 2005, etc.) and CSOs (e.g., Gee et al., 2003; 2004; 2006) both indicate that sharing fantasies can bolster feelings of inclusion, relief and/or commiseration.

Focusing specifically on sexual fantasies, such figments have been theorised to diminish negative emotions, such as anger and anxiety (e.g., Bartels & Gannon, 2011; Pithers et al., 1983), including among child sex offenders (e.g., Ward et al., 1998). As noted earlier, persons with sexual attractions to children (e.g., Ward & Beech, 2006) and/or cybersex addicts (e.g., Young, 2008; 2001) often feel lonely, insecure and suspicious. Because of this, it may be that fantasising (individually or within groups) positively affects CSDs' moods and, thereby, decreases risk of (re)offending. Alternatively, the theory of *harm thesis* and/or *harm causation* (e.g., Howitt, 1995; Reeves, 2013, respectively) proposes that repetitive fantasising can incite criminal behaviour by escalating sexual proclivities (McCarthy, 2010). Currently, however, research examining such matters has produced inconsistent results (Calcetas-Santos, 2001; Groves & Thomson, 1970; Koukounas & Over, 1993; Krone, 2004; Palk & O'Gorman, 2004; Riegel, 2004; etc.)—with

studies into how the fantasies and actions of CSDs' interrelate remaining especially deficient. As of now, therefore, the relationship between sexual fantasising and offending remains ambiguous.

Due to the inconclusive findings of studies such as those summarised above, by and large, researchers assert that any interrelationship between internet use, sexual fantasies, and (contact) sexual offending likely depends on a mix of individuals' biological, psychological and/or social characteristics (see Poli, 2017; Putnam, 2000). To that end, however, related research into variables which might increase a person's threat of committing (contact) sexual offences (i.e., *risk factors*) has produced more definitive findings (Ward & Beech, 2006). In theory, therefore, if indicators of such risk factors can be identified and/or discerned among CSDs' chatroom communications, such might help to reveal individuals with (greater) offending tendencies. For this reason, it is worth (briefly) recognising what factors may cause persons to commit (contact) child sex offences.

Sexual offending: predictors and risk factors of potential abusers

With both increasing frequency and insights, explanations for sexual offending have long been sought by academics and investigators alike (Phenix & Hoberman, 2015). Resultantly, in more recent years, the complexities of such phenomena have led to the development of various theoretical models, each presenting their own strengths and limitations.[13] Derived from these same models, Ward and Beech (2006) have since proposed the *Integrated Theory of Sexual Offending* (ITSO), which, in essence, classifies established risk factors for sexual offending under the variables of: 1) genetic predispositions, 2) adverse developmental experiences, 3)

[13] Including but not limited to: Finkelhor's Precondition Theory (Finklehor, 1984); Marshall and Rarharee's Integrated Theory (Marshall & Rarharee, 1990); the Quadripartite Model of Child Molestation (Hall & Hirschman, 1992) and the Pathways model (Ward & Siegert, 2002).

psychological dispositions/trait factors; 4) social and cultural structures and 5) processes and contextual factors. Importantly, since the model's conception, support for the ITSO has reliably grown (see Phenix & Hoberman,). As such, given the limited scope of this thesis, it is the ITSO and/or its particularly relevant elements, which shall be reviewed herein.

Over time, the concept of an archetypal profile for CSOs (of any subcategory) has been definitively disproven (Long et al., 2016). Nonetheless, based on the prevalence of certain characteristics and/or experiences identified among sexual offenders, the ITSO recognises four (primary) dynamic risk areas (i.e., *domains*) which ought to be considered (Ward & Beech, 2006). Firstly, as noted in this thesis' discussion of sexual fantasies, the ITSO recognises that the presence of deviant sexual interests[14] can indicate an increased risk for (re)offending. Given that not all offenders report aberrant interests and most non-offending persons also experience deviant (sexual) fantasies, however, so is it recognised that such interests alone are not indicative of imminent offending behaviour (Bartels & Gannon, 2011. Ward and Beech, 2006).

In addition to deviant (sexual) interests, Ward and Beech's (2006) second dynamic risk factor notes that *dysfunctional schemas* are also rife among sexual offenders. To clarify, within Bartlett's (1932) *schema theory*, it is postulated that individuals' process information by forming general, mental concepts which represent aspects of the world (DiMaggio, 1997). A *schema*, therefore, is a personal classification of information to understand a concept (Athey, 2007). In relation to sex offenders, research (e.g., Mann & Beech, 2003) has found such individuals to often hold hostile and/or overly sexual views of other persons. More specifically, among CSOs and/or paedophiles, a common conceptualisation is that children are sexually aware individuals,

[14] Currently, debate remains around the proper use and definition of the term *deviant* (see Bartels & Gannon, 2011). Herein, however, the label shall refer to: anything which violates socially constructed guidelines (i.e., norms) which suggest appropriate and/or acceptable behavior within relevant contexts (see Thomson & Gibbs, 2016).

with interests in and/or attractions towards adults (Mann & Beech). As such, when encountering ambiguous situations and/or information (e.g., a child lifting their shirt) persons with sexual attractions to children may interpret the stimuli to fit their schemas (i.e., the child lifted their shirt as a sexual advance). Relatedly, (potential) sexual offenders may hold assumptions about themselves and/or their relation with the world, thereby experiencing feelings of anxiety or entitlement (Mann & Beech). When analysing CSDs' electronic intercommunications, therefore, the presence and potential investigative and clinical insights of such distorted views and/or schemas are imperative to consider.

Next among the ITSO's dynamic risk factors, the model also recognises that persons who are experiencing problematic interpersonal attachments and/or resulting negative emotions pose an especially high risk of offending (Ward & Beech, 2006). To this point, the ITSO further notes an even greater threat may be posed when interpersonal relationship issues also challenge the dysfunctional schemas of the at-risk individual (Ward & Beech). Because the influences of interpersonal difficulties and resulting negative emotions have already been discussed in relation to chatroom users and/or cybersex addicts, however, such risk factors shall not be discussed in-depth again. Nonetheless, it should be iterated that indications and/or posts regarding negative emotions within CSDs intercommunications must be considered by researchers and investigators in order to critically appreciate and assess such comments.

As pertains to the last of the ITSO's four (primary) dynamic risk areas, Ward and Beech (2006) note how impulsivity and/or mood problems may lead to offending. Based on preceding research (e.g., Hanson & Harris, 2000; 2001; Thornton, 2002), the model recognises that sexual offenders often display: 1) inabilities or indifferences to refrain from urges, 2) failures to regulate adverse emotions, 3) poor abilities to adjust plans according to circumstances and/or 4)

diminished problem-solving skills. Consequently, when experiencing a desire and/or opportunity to commit an offence, deficits with self-regulation may lead some individuals to act on these impulses (Ward & Beech). For academics and investigators examining CSDs, therefore, comments which provide insights into persons' impulsivity and moods may be particularly valuable for understanding individual messenger and their intercommunications as a whole.

Having now discussed each of the aforementioned dynamic risk areas, it is worth reaffirming that the ITSO recognises not all contact sex offenders will demonstrate each attribute (Ward & Beech, 2006). Indeed, as previously stated, the concept of an archetypal CSO has long been disproven (Long et al., 2016). To this point, it is also important to recognise that even if each above-mentioned risk factor can be reliably discerned within CSDs' intercommunications, their presence or absence alone may not help to identify (imminent) CSOs. Consequently, it is all the more essential that the general content, context, and significances of CSDs' communications be examined, along with the ITSO's remaining (relevant) sexual offence risk factors.

As previously stated, among the ITSO's broadest/overarching categories of risk factors are: 1) genetic predispositions, 2) psychological dispositions/trait factors; 3) social and cultural structures; 4) adverse developmental experiences and 5) processes and contextual factors (Ward & Beech, 2006). Beginning with the category of psychological dispositions (in addition to issues with interpersonal relations, impulsivity and self-regulation, as recently discussed), research has found that numerous mental health issues to be especially prevalent among CSOs (see Table 2.5, pg.45).[15] In theory, therefore, if indicators of individuals' mental states can be discerned within CSDs' electronic communications, it may be that persons more prone to commit contact sexual offences can be identified. Given the innumerous variables in need of consideration for such

[15]It should be noted that all evaluations in question were made during offenders' incarceration. As such, the participants' environment may have impacted their mental health conditions.

assessments to be attempted, the potential of identifying indicators of CSDs psychological traits shall be discussed throughout the remainder of the present research.

Table 2.5: CSO mental evaluations (as presented in Briggs et al., 2011 p.82)

Mental health characteristics	Total sample (*N* = 51)	Contact-driven (n = 30)	Fantasy-driven (n = 21)
Axis I diagnosis	38 (74.5%)	22 (73.3%)	16 (76.2%)
Comorbid diagnosis	13 (25.5%)	5 (15.7%)	8 (38.1%)
Axis 1 diagnosis category			
• Depressive disorder	17 (33.3%)	10 (33.3%)	7 (33.3%)
• No diagnosis	13 (25.5%)	8 (26.7%)	5 (23.8%)
• Adjustment disorder	13 (25.5%)	7 (23.3%)	6 (28.6%)
• Substance use disorder	7 (13.7%)	4 (13.3%)	3 (14.3%)
• Anxiety disorder	4 (7.8%)	3 (14.3%)	1 (4.8%)
• Bipolar disorder	9 (17.6%)	2 (6.7%)	2 (9.5%)
• Paraphilia	5 (9.8%)	1 (3.2%)	4 (19.0%)
• Attention deficit hyperactivity disorder	1 (2.0%)	1 (3.2%)	0 (0.0%)
• Posttraumatic stress disorder	1 (2.0%)	0 (0.0%)	1 (4.8%)
Axis II disorder diagnosis	28 (54.9%)	17 (56.7%)	11 (52.4%)
Axis II disorder category			
• None	23 (45.1%)	13 (43.3%)	10 (47.6%)
• Avoidant personality disorder	13 (25.5%)	9 (30.0%)	4 (13.3%)
• Narcissistic personality disorder	7 (13.7%)	2 (6.7%)	5 (23.8%)
• Dependent personality disorder	3 (5.9%)	2 (6.7%)	1 (4.8%)
• Borderline personality disorder	3 (5.9%)	1 (3.3%)	2 (9.5%)
• Antisocial personality disorder	3 (5.9%)	3 (10.0%)	0 (0.0%)
Childhood trauma			
• Experienced sexual abuse	6 (11.8%)	4 (13.3%)	2 (9.5%)
• Experienced physical abuse	9 (17.6%)	6 (20.0%)	3 (14.3%)
• Witnessed domestic violence	12 (23.5%)	9 (30.0%)	3 (14.3%)

Continuing with this study's summary of the ITSO (i.e., Ward & Beech, 2006), it is important to note how the aforementioned risk factor category of 'social and cultural structures', might provide means of gauging between the threat (levels) posed by CSDs. As such, to review matters already discussed, research commonly finds that persons with sexual attractions to children are often denounced by society (O'Halloran & Quayle, 2010). This, in turn, can result in feelings of loneliness and/or a desire to escape from issues by engaging with likeminded others online (O'Halloran & Quayle). Based on such research, it is reasonable to consider whether

indicators of sociocultural troubles can be found within CSDs' electronic intercommunications, and whether identifying such risk factors may, in turn, help to distinguish probable CSOs.

Additionally and/or alternately, with respects to the ITSO's identified risk factor of adverse developmental experiences (e.g., poor parenting, harsh and/or inconsistent discipline, sexual and physical abuse), it should be noted that research has found being a victim of child (sexual) abuse may increase individuals' likelihood of becoming offenders themselves in attempts to reestablish a sense of power and/or control in their lives (Ward & Beech, 2006). By extension, it is reasonable to theorise that CSDs who mention adverse developmental experiences within their electronic communications may also present a greater risk of (re)offending. Likewise, given that the presence of ongoing exacerbating contextual issues (e.g., stressful situations and/or substance use) is another risk factor recognised by the ITSO (Ward & Beech), it could also be that indications of said issues within CSDs' intercommunications may relate to particularly dangerous/at risk individuals.

Overall, the ITSO and all preexisting models which it entails reveals sexual offending to be an incredibly complex phenomena, with no guaranteed means of assessment when it comes to gauging the risk of an individual (Ward & Beech, 2006). Be that as it may, however, it is reasonable to conclude that numerous risk factors associated with sexual offending may be discernable within electronic communications between CSDs. For each of the abovementioned reasons and more, therefore, further consideration of the content, context, and significances of CSDs' peer-to-peer communications is warranted. Indeed, given the amount of (potential) child sex abuse cases demanding investigators' attention, it is imperative that all promising means of expediently assessing and/or identifying potential CSOs be pursued.

Section 3: Child Sex Offenders and Computer Mediated Communication

CSO investigations: Objectives and methods

As eluded to earlier, children victimised by non-contact and contact sexual exploitation alike are at risk of suffering long-term and short-term negative effects (see Martin, 2014; Papalia et al., 2018). Recognising this, the National Policing Improvement Agency, on behalf of the Association of Chief Police Officers (ACOPO), published a report offering guidance to improve child abuse investigations (i.e., NPIA, 2009).[16] Therein, the authors stress the importance of identifying *potentially dangerous persons* (PDPs), stating that such assessments are vital to: 'ensure that concerns for children are prioritised and actioned appropriately (pg.25).' Likewise, to meet minimum standards for protecting vulnerable people,[17] West Yorkshire Police (WYP) state that child abuse investigators must: 'ensure…potential suspects most likely to cause harm are identified and prioritised' (WYP, 2018 pg.16).[18] To clarify, this includes assessing the threat which any given CSD may pose of committing a (contact) sexual offence.

In order to identify PDPs, two internationally popular methods among law enforcement are to pose as children or offenders online and charge any persons who makes sexual advances (Mitchell, Wolak, & Finkelhor, 2005; Wright, 2009). However, because these methods can strain police resources and face legal challenges, a more expedient and dependable method is required. Within the aforementioned NIPA (2009) report, therefore, the authors specify multiple variables linked to higher likelihoods of committing child sex abuse (e.g., access to victims, history of

[16] For full report, visit: https://zakon.co.uk/admin/resources/downloads/investigating-child-abuse-and-safeguarding-children-guidance-2009.pdf.
[17] For specifics, see the Children Act 2004, Crime and Disorder Act 1998, and Sexual Offences Act 2003
[18] For full report, visit: https://www.westyorkshire.police.uk/sites/default/files/2018-08/child_sexual_exploitation.pdf.

child abuse, possible animal abuse, etc.). Yet, as useful as such indicators may prove, in order to use said variables to gauge the threat posed by individuals, suspects' identities must (often) be known. Contrarily, by assessing the electronic communications of CSDs, this need not be the case. Indeed, within their report, the NIPA state: '[the] details of electronic communications do not only relate to investigations as they can provide critical evidence for other investigations. Such information also ensures that activity in other areas of offending can be quickly checked and cross-referenced' (pg.68). In other words, even if not used during initial risk assessments, investigators should collect and examine suspects' computer mediated communications to identify otherwise overlooked offences/offenders. To assist with this processing, therefore, investigators are increasingly seeking and employing novel technology (Rashid et al., 2013).

Tools: tested and theoretical

To date, a number of specialized computer programmes (i.e, *toolkits*)[19] exist to assist investigators with monitoring and assessing CSDs' electronic communications. Most prevalent among said toolkits is *filtering software,* which serves to identify and isolate key words and/or phrases online to block harmful content and/or messages intended for children (Rashid et al., 2013). In turn, investigators can use what content was intercepted to identify potentially dangerous persons (Rashid et al.). This being said, as helpful as such gatekeeping software has proven, the method largely relies on analysing communications between suspected offenders and (presumed) children. By extension, the intercommunications between CSDs are relatively overlooked (Rashid et al.). However, this is not to say such content is by any means ignored.

[19] For example, such programmes include *NetNanny, PureSightPC* and *Spector Pro* (Rashid et al., 2013).

Broadly speaking, there are six main features offered by investigative toolkits to monitor and assess computer mediated communications between CSDs (Rashid et al., 2013). Regrettably, despite exhaustive searches, no detailed, public descriptions of such tools could be found. In their assessment of technological solutions to combat child sex offences, however, Rashid et al. sumarise the primary functions of toolkits to include software which: 1) extracts information (e.g., emails, texts, chatroom posts, etc.) in real-time and/or where it is digitally stored (i.e., *data management extraction*); 2) compares how individual CSDs' electronic communications change across time (i.e., *timeline analysis*); 3) identifies key words (e.g., rape, offend, abuse, etc.) within CSDs' messages (i.e., *terminology extraction*); 4-5) builds and contrasts profiles of CSDs' basic characteristics (e.g., age and gender) using terms and phrases within their communications (i.e., *user profile building* and *profile comparisons*, respectively) and 6) provides details of when conversations took place and what topics were discussed (i.e., *chatlog analysis*). In their own ways, each aforementioned tool assists investigators with prioritising actions and/or resources. Be that as it may, no research specifying how accurate and/or successful such toolkits have proven has been conducted or made available. Yet, even still, it is recognised that the software currently being used to monitor CSDs' electronic intercommunications has its limitations.

To clarify, research conducted into (online) child sex offenders by the UK's *Isis Project* found CSDs to be technologically savvy and mindful of the investigative methods/tools used by police (Rashid et al.). Thus, it is possible that the above-mentioned toolkits are increasingly unfit to identify PDPs. Relatedly, it also recognised that even if software currently being used to monitor CSDs' electronic intercommunications is effective, no standard protocol and or guidelines exist to provide a coherent and established approach for making such assessments (Hughes et al., 2006). In order to more effectively, reliably and/or credibly identify PDPs based

on the computer mediated communications between CSDs, therefore, it is recognised that a novel tool and/or application is needed (Hughes et al., 2006; Rashid et al.). Fortunately, as is discussed throughout this thesis, more contemporary research into CSDs' communications have identified multiple promising thematic (e.g., McManus et al., 2015) and linguistic (e.g., Chiu et al., 2018; Seigfried-Spellar et al., 2019) features for identify potential contact offenders.

Section 4: Chapter reflections

Expositions

Advancements in Computer Mediated Communication (CMC) and demand for such technology increases annually worldwide (Holt et al., 2015). In large part, this is owed to the internet's accessibility, affordability and anonymity. Over time, as such amenities are adopted by society, cultural habits and customs change in responses termed technicways, as people's behaviours, values, and goals adjust in ethically ambiguous manners to such advancements (Holt et al., 2015; Odum (1937; 1947; Quinn & Forsyth, 2005). As a result, this allows for easier, anonymous sexual exploration and expression (Cooper, 2002, Young, 2001, Young 2008). By extension, the internet has created virtual back places for individuals with sexual interests in children to discuss their proclivities (Durkin et al., 2006).

Currently, what proportion of such child sex discoursers (CSDs) also pose a direct risk of committing a child sex offence has proven unreliable to gauge. Yet, in order to best protect the public from CSDs with offending tendencies, it is imperative that investigators identify such potentially dangerous persons (PDPs). This includes by analysing the electronic communications

between CSDs (Hughes et al., 2006; NPIA, 2009; Rashid et al., 2013; WYP, 2018). In turn, it is important for researchers to assist developing a reliable method to facilitate such efforts.

Current research: Inspirations and intentions

As expounded throughout this thesis, the current study focuses on assessing the content, context and significances of CSDs' computer mediated intercommunications, focusing on the natures of language and themes. Consequently, further aims of the study include assessing which communicative features may help gauge individuals' offending histories and/or tendencies. To this point, recent analyses of CSOs' chatroom themes (McManus et al., 2015) and vocabulary (e.g., Chiu et al., 2018; Seigfried-Spellar et al., 2019) hve begun to find potential indicators of contact offenders. As such, by examining and expanding upon said research, it is possible to both address current gaps in knowledge and lay a foundation for developing novel and/or standardised software for assessing the computer mediated communications between CSDs.

Upcoming sections

Using various analytic approaches, researchers have begun to examine the thematic (i.e., McManus et al., 2015) and linguistic (i.e., Chiu et al., 2018; Seigfried-Spellar et al., 2019) content of CSOs' communications, including idiosyncrasies which might help assesses individuals' offending histories and tendencies. As such, to complete this study's literature review, the upcoming chapter shall provide an in-depth of said studies. In so doing, this thesis will also assess which findings hold the most promise for identifying PDPs. Subsequently, Chapters 4 and 5 will discuss how the philosophy and methods of past research influenced that of the present study, before clarifying this study's data and design. Once such is established, this

study shall proceed to review its own observations of themes identified within CSDs' computer mediated research (i.e., Chapter 6). Similarly, Chapter 7 shall review what linguistic variables may help to distinguish PDPs and/or identify CSOs online before discussing the present study's examinations of CSOs' chatroom language.

Afterward, Chapter 8 will reexamine the most pertinent findings of past research and the present study to provide a more comprehensive and cohesive examination of CSOs' electronic intercommunications. In conclusion, Chapter 9 will address any limitations with the study to develop further understanding of what queries must be addressed moving forward. Ultimately, therefore, this thesis will establish the study's unique contribution with respects to analysing CSDs' computer mediated communications and laying a foundation for future standards and applications of investigative software.

3. Thematic and linguistic features of CSDs and CSOs' communications: An overview of the content and contributors

Key terms and abbreviations

Antisocial Personality Disorder (ASPD)
Chat Analysis Triage Tool (CATT)
Computerised text analysis (CTA)
Dialogue not otherwise specified (NOS)
Linguistic Inquiry Word Count (LIWC)
Perverted Justice (PJ)
Support Vector Machines (SVMs)

Section 1: Observations across time and communities

Child sex chatrooms: Culture and content

The number of child sex chatrooms is vast and ever-increasing (Holt et al., 2015). In response, researchers have begun examining such phenomena with greater regularity and rigor. Early on in such efforts, Linehan et al. (2001, as cited in O'Halloran & Quayle, 2010) attempted to examine group dynamics among CSDs by monitoring communications on a public web forum. Regrettably, for reasons unknown, the study remains unpublished.[20] Yet, even so, several observations have been shared which warrant attention. To begin, the researchers reportedly found that CSDs would attempt to foster fellowship by sharing details of their personal lives and/or sexual interests. Importantly, however, it was also observed that simply contributing to the forum did not ensure one's approval. Within the community, terms such as *newbies, wise ones, regulars* and *trolls* were used to establish a social hierarchy and reinforce an oppositional mentality against mainstream society. That being said, because Linehan's et al. study remains

[20] To obtain a copy of Linehan et al. (2001), various authors were contacted. However, none replied.

unpublished, any conclusions must be considered with caution. Fortunately, more contemporary studies have likewise examined CSD chatrooms (see Table 3.1).

Table 3.1: Research into the content of electronic communications between CSDs

Study	Methodology	Data source	Transcript size	Sample size
Linehan et al. (2001)	Content analysis	One public chatroom	Unspecified	Unspecified
Malesky & Ennis (2004)	Content analysis	One public chatroom	238 posts	Unspecified
Lambert & O'Halloran (2008)	Deductive thematic analyses	One female-oriented public chatroom	Unspecified	Unspecified
Holt et al. (2010)	Grounded theory	Five public chatrooms	705 threads	Unspecified
O'Halloran & Quayle, (2010)	Content analyses and Cohen's kappa	One public chatroom	127 posts	23 CSD profiles
Cockbain et al. (2014)	Thematic analyses Cohen's kappa	Interviews with dual CSOs	N/A	3 dual CSOs
McManus et al. (2015)	Content analyses, Mann-Whitney U tests and MANOVAs	Hampshire Constabulary	Ranged from 345-2,355 lines between CSOs (total length unspecified)	5 contact CSOs and 7 non-contact CSOs

* For a review of each study's methodologies, refer to Chapter 4 and 5 herein

As within Linehan et al. (2001), most studies in the table above sought to identify common themes within their subjects' dialogues. Only more recently, while also examining CSDs' communicative themes, did one study (i.e., McManus et al., 2015) search for connections to their subjects' sexual offence convictions. Nonetheless, each of the above-listed studies are important to review for multiple reasons. Firstly, in order for (future) studies examining CSDs' electronic communications to assure their analyses were performed on representative samples, it is critical to affirm whether CSDs' computer mediated communications have a typical nature. Secondly, it is important to consider what sex offence risk factors might be identifiable among

CSDs' posts to reassess whether such comments may also relate to individuals' offending histories and/or tendencies.

Communicative themes among CSDs and/or CSOs

Beginning with another relatively early study into CSDs' online messages, Malesky and Ennis (2004) examined 238 posts from a single chatroom. In brief, their research identified six primary incentives for CSDs to post, including: 1) validating deviancies, 2) providing information (e.g., news articles), 3) sharing materials (e.g., pictures, poetry, fictions, etc.), 4) finding victims, 5) acquiring CSDs' contact details, and 6) discussing dialogue not otherwise specified (NOS). Although the study failed to clearly define any of the aforementioned motives, with respects to the latter (i.e., NOS), it was clarified that CSDs posted about nondeviant subject matter (e.g., books, movies, and hobbies) in 62.6% of posts in order to establish a sense of comradery. Along with and/or in addition to such exchanges, however, Malesky and Ennis also found that 12.6% and 52.9% of posts respectively[21] contained information and/or material relating to child sex. Moreover, in 3.8% of posts, CSDs attempted to commune with children directly. Yet, as to whether CSDs who made such comments were also acting with earnest (i.e., at risk of committing an offences) remains unknown. Likewise, nor do the abovementioned percentages themselves served to help distinguish potentially dangerous persons (PDPs).

With all this being said, the value of Malesky and Ennis' (2004) research should not be understated. By finding evidence that CSDs discuss sexual and non-sexual matters to foster comradery, their study bolstered the findings of Linehan et al. (2001). Additionally, by noting CSDs to seek victims on child sex chatrooms, Malesky and Ennis provide additional insights into

[21] Posts containing multiple purposes (56% of posts) led to percentages totaling over 100%.

online CSD culture. Yet, along with the study's insights, it is important to recognise the study is based on a (relatively) small number of messages, posted by an unspecified number of CSDs. To this point, due to the anonymity afforded online, it is unknown which (if any) CSD accounts: 1) belonged to offenders, 2) were controlled by investigators, 3) were operated by one CSD under multiple aliases or 4) belonged to individuals only claiming to have sexual interests in children.[22] Moreover, even if such complications were accounted for, Malesky and Ennis's data was only collected from one chatroom (intended for persons with sexual interests in young males). As such, it is imperative to review additional CSD-focused studies.

Looking to likewise identify themes within CSDs' online communications, Holt et al. (2010) collected 705 posts (i.e., *threads*) from five child sex chatrooms. Regrettably, although the total number of CSDs on each forum was provided,[23] Holt et al. failed to specify how many CSDs actually contributed to their sample. Similarly, nor was it clarified which observations were found into relation to which chatroom(s). Yet, even so, the study did identify the following communicative themes of: *Marginalization, Sexuality, Law* and *Security*.

In regards to Marginalization, Holt et al., (2010) found CSDs to regularly discuss day-to-day activities and praise the forums' comradery (as reported by Linehan et al., 2001 and Malesky & Ennis, 2004). Relatedly, CSDs would complain about mainstream society, often labelling criticisers as: *antis, anti-child sex Nazis* and *anti-paedophile haters.* To reinforce this narrative of being unduly persecuted, CSDs would also reproach individuals reported to have forcibly raped children whilst romantising their own sexual attractions and/or actions with euphemisms, such as*: boy love, girl love* and/or *child love*. Next, under the theme of Sexuality—which pertains to statements involving CSDs' actual sexual preferences, opinions and practices—Holt et al. reports

[22] For internet addicts, Young (2008) found it is not uncommon to profess false sexual desires online.
[23] CSDs per chatroom: 198, 40, 224, 123 and 418 users.

CSDs to regularly discuss sexual fantasies and/or make claims of past sexual encounters they had *with* and/or *as* children.

Thirdly, comprising the theme of Security, Holt et al. (2010) found that CSDs would often advise others to omit and/or change details in their posts when discussing (potentially) incriminating (sexual) matters. Likewise, if CSDs were to allege having committed an offence, exculpating phrases (e.g., 'I had a dream last night' pg.15) were sometimes recommended to (seemingly) thwart legal repercussions. Beyond this, Holt et al. reports that CSDs would both advise others how to avoid one's sexual deviancy being detected and/or would condemn posts seeking victims or sharing visual media of children (illicit or not) which might prompt investigations. Relatedly, sorted under the theme of Law, some CSDs would discuss legislation, investigations, sentencing protocol and court cases in regards to child sex offences.

In the end, by comparing and contrasting a relatively large sample of posts from multiple websites, Holt et al. (2010) uniquely contributed to the understanding of CSD chatrooms and/or communications. As reported in preceding research (i.e., Linehan et al., 2001; Malesky & Ennis, 2004), the study likewise found CSDs to use web forums to foster kinship, scorn society and revel in sexual interests. Importantly, however, unlike past research, Holt et al. also noted that while some CSDs sought access to victims, such posts were largely eschewed, being deemed either legally or morally dubious. Based on such findings, the question can be raised whether comments classified under the themes of *Security* and *Law* might be more commonly expressed by individuals with greater cause for concern from investigators. If so, such statements might prove useful for distinguishing PDPs. However, given the public accessibility of the chatrooms examined, it may be that users were (especially) inclined to censor certain posts. Indeed, such is indicated by Holt et al.'s observations of CSDs using careful phrasing when detailing potentially

incriminating actions, rejecting messages seeking victims and/or censuring posts spreading visual media of children.

Next among CSD-focused studies, rather than examine anonymous posts online, Cockbain et al. (2014) interviewed three convicted contact CSOs from England about their involvement with groups of fellow offenders (e.g., *syndicates*). Admittedly, while the study's small sample does limit its generalisability, insight into how and why CSOs congress online and offline was obtained. To clarify, much like the above-discussed studies, Cockbain et al.'s interviews revealed that a primary reason for CSOs to join communities was for fellowship. By discussing their daily lives, grievances with society and sexual interests, the participants claimed syndicate members regularly fostered online and offline relationships. That said, as was also noted by Linehan et al. (2001), it was found that not all CSOs were treated equally. Evidencing this, Cockbain et al.'s participants claimed that recently accepted syndicate members were labelled as *newbies*, while CSOs timid about posting onto chatrooms were called *lurkers*.

Interestingly, however, contrary to Holt et al.'s (2010) sample of CSDs rejecting all media depicting children, the CSOs interviewed by Cockbain et al. (2014) stated that syndicate members were not only encouraged to trade IIOC but often required to do so in order to gain trust and/or acceptance. Upon consideration, such a difference may be (partially) owed to the fact that the aforementioned syndicates were (reportedly) comprised exclusively of CSOs. Thus, it may be that comments requiring individuals to share IIOC are indicative of persons involved in (contact) child sex offences. However, because the samples examined by Holt et al. and Cockbain et al.'s both based their rationale on sharing IIOC with the aim to avoid compromising their security, any differences in the communities' protocol may be owed to the (respectively) public and private nature of the chatrooms being used.

With all this said, Cockbain et al.'s (2014) interviews ultimately help to further explain the qualities of CSD chatrooms, as well as provide insight into the computer mediated communications of confirmed (dual) child sex offenders.[24] Given the seriousness and potentially incriminating nature of the subject matter discussed, however, it must be acknowledged that the study's participants may have had (exceptional) incentive to provide misleading statements. In addition, it is worth recognising that each participant interviewed was male.[25] That said, previous research (i.e., Mathews, 1996) has indicated approximately one quarter of reported child sex exploitation cases involve female offenders. Yet, even so, there remains a dearth of research into this demographic (Kramer & Bowman, 2011).[26] As such, it is particularly important to consider studies which attempted to take CSDs' gender into account.

For their research, Lambert and O'Halloran (2008) analysed posts on a chatroom intended for female CSDs. Regrettably, the use of anonymous and publicly accessible data weakens the study's findings in ways discussed above and prevents knowing what percentage of CSDs were actually female. With this said, the researchers ultimately identified twenty-four communicative themes within CSDs' posts. Given this copious number of themes, however, only the following, broader categories will be discussed herein: 1) *Role of the Internet*, 2) *Sexual Motivation*, 3) *Personal Factors*, 4) *Recognition Barriers* and 5) *Cognitive Distortions*.

As pertains to the 'Role of the Internet.' Lambert and O'Halloran (2008) classified all posts which addressed CSDs' reasons for using chatrooms. Consistent with expectations and related research, it was found that most CSDs expressed longing for acceptance and sought rapport by condemning society, praising the chatroom and explaining the website to newcomers.

[24] Dule offenders: referring to CSOs with histories of contact and non-contact offences.
[25]Based on comments made by the study's participants, all syndicate members were likewise male CSOs.
[26] Following an extensive search, no study asking female CSDs about their chatroom use was found.

Unlike with preceding studies, however, Lambert and O'Halloran also noted how (supposedly) female CSDs celebrated that woman are seldom suspected to have sexual interest in children. Accordingly, posts which expressed such sentiments were categorised under the theme of 'Recognition Barriers'. Furthermore, unlike previously discussed CSD-focused studies, Lambert and O'Halloran made no mention of CSDs establishing hierarchies and/or using labels.

Beyond these findings, in regard to the theme of 'Sexual Motivation', Lambert and O'Halloran (2008) report (female) CSDs to regularly describe their sexual interests and opinions. Relatedly, categorised under the theme of 'Personal Factors,' CSDs were also noted to disclose sexual experiences and interpersonal issues from their youth, as well as share negative emotions resulting (in part) from their sexual interests. Together, such findings further indicate that the variable of gender is unlikely to significantly influence the nature of CSD chatrooms. Because Lambert and O'Halloran's (2008) research examines communications between (alleged) female CSDs, however, it remains unclear whether communications between male and female CSDs would reveal different results. To this point, among the 24 subthemes identified by the study, two were found to be distinct from themes documented in past, male-focused research.

Whilst commenting on their sexual predilections, the (presumed) female CSDs studied by Lambert and O'Halloran's (2008) were found to regularly claim that children benefit from sexual contact with women but not with men. In brief, their assertions were that women act as intimate partners and, therefore, are emotionally nurturing when performing sexual acts. Contrarily, men were understood to use children as sexual objects. Together, such arguments offer examples of subthemes grouped within the study's final broad thematic category of 'Cognitive Distortions.' Interestingly, moreover, despite not reporting similar views comparing male and female abusers,

so did other CSD-focused studies find examples of 'cognitive distortions' on male-oriented CSD chatrooms. As such, statements of this nature warrant in-depth discussion.

Cognitive distortions and techniques of neutralisation

In an early study into morality and mentality of criminals and/or delinquents, Sykes and Matza (1957) observed that such individuals would also commonly: 1) experience guilt over their illicit and/or aberrant acts, 2) hold respect for model citizens, 3) differentiate between acceptable and unacceptable victims and 4) desire to conform to society. Intent on explaining these apparent contradictions, the researchers examined how offenders reconciled their thoughts and actions, ultimately identifying the following *techniques of neutralisation:* 1) Denial of responsibility: insisting one's actions were beyond their control, owing to the circumstances; 2) Denial of injury: arguing one's actions were harmless; 3) Denial of the victim: contending that victims deserve and/or bear responsibility for any violations or abuses against them; 4) Condemnation of the condemners: claiming that those who criticise deviant acts do so out of spite; and 5) Appeal to higher loyalties: taking the stance that an offence was necessary for the greater good (Sykes & Matza). Subsequently, upon researching self-efficacy and behavioural changes among individuals, Bandura (1977) likewise observed that subjects would adopt and/or express assumptions and self-statements which helped to allay, rationalise and justify aberrant thoughts and/or behaviours. As such, these extenuating thoughts were broadly termed *cognitive distortions*, and have since been examined across various fields.

With regards to CSD-focused research, as touched upon above, multiple studies have identified cognitive distortions among child sex web forums (see Table 3.2, pg.62).[27] Owing to

[27]It should be noted that not all cognitive distortions identified were found to be mutually exclusive.

the numerous cognitive distortions identified by these studies, however, to review every one herein would be impractical. That said, in addition to the few already discussed (with regards to Lambert & O'Halloran, 2008), it is important to provide a general overview CSDs general cognitive distortions and, by extension, note any apparent connections to Sykes and Matza's (1957) techniques of neutralisation.

Table 3.2: Cognitive distortions among CSDs

Study	Cognitive Distortions
Malesky & Ennis (2004)	• Misperception of Consequences • Devaluing and Attributing Blame to the Victim • Justification of Reprehensible Conduct • Moral Justifications* • Palliative Comparisons • Psychological Justifications • Euphemistic Labels • Child Consent • Basking in Reflected Glory
Lambert & O'Halloran (2008)	• Child as seducer • Consensual relationship • Sex is natural* • Need to educate children* • Sexual contact with females is positive • Child has right to act sexually • Justify adult behaviours • Children are sexually oppressed* • Differences between male and female 'paedophiles'
O'Halloran & Quayle (2010)	• Any type of account • Condemnation of condemners* • Denial of injury* • Claim of benefit* • Denial of victim* • Appeal to higher loyalties • Basking in Reflected Glory

*Also expressed by CSOs interviewed by Cockbain et a. (2014), yet not labeled as cognitive distortions.

Firstly, to resume this study's discussion of the cognitive distortion reported within Lambert and O'Halloran (2008), it was found that among (allegedly) female CSDs, chatroom users would not only claim sexual acts with children were more respectful and/or romantic with

women than with men (as discussed above), but that sex between women and children was emotionally beneficial, educational and/or natural. To this point, individuals contributing to the female-oriented chatroom would argue that children (male or female) desired sexual acts and were, therefore, at least partially responsible for engaging in such behaviour. Referring back to Sykes and Matza (1957), these cognitive distortions appear to echo the following techniques of neutralisation: Denial of responsibility, Denial of injury, Denial of victims, and Condemning the condemners. Beyond this, however, studies into (presumably) male CSDs also report comparable arguments and beliefs.

Similarly examining communicative themes on a chatroom for (male) CSDs, O'Halloran and Quayle (2010) likewise identified multiple 'cognitive distortions' which ultimately displayed equivalent characteristics (and labels) to several techniques of neutralisation (see Table 3.2, pg.62). More specifically, this study revealed 65% of CSDs (N=23 user profiles) expressed at least one cognitive distortion—with 57% denouncing mainstream ethics, 35% denying sexual acts to harm children, 17% arguing sexual acts benefit children and 13% insisting that children deserve and/or encourage sexual behaviour. Additionally, 13% of the sample argued they (the CSDs) were helping to sexually educate children while 4% posited that especially successful individuals (e.g., Hermann List, Socrates, Plato, Oscar Wilde, etc.) are often wrongfully slandered as CSOs. This latter cognitive distortion was categorised under *Basking in Reflected Glory* (BIRGing) and was similarly reported in preceding research.

To clarify, beyond their recognition of CSDs' motives for conversing online, Malesky and Ennis (2004) also attempted to identify cognitive distortions (relating greatly to various techniques of neutralisation) on one CSD chatroom. For these analyses, the researchers referred to Murphy (1990), who asserted that sex offenders exhibit three primary cognitive distortions: 1)

misrepresenting the harm of offences (i.e., *Misperception of Consequences*), 2) disparaging victims (i.e., *Devaluing and Attributing Blame to the Victim*) and 3) validating actions and/or offences (i.e., *Justification of Reprehensible Conduct*).[28] Contrary to expectations, however, Malesky and Ennis found no examples of these exact cognitive distortions among CSDs. That said, their sample did exhibit other cognitive distortions, which include: *BIRGing*[29] (akin to the category in O'Halloran & Quayle, 2010) and *Child Consent* (i.e., claiming children can and/or will consent to sexual acts). Overall, the study found that 27% of posts contained at least one of these cognitive distortions, with 10% containing both. However, out of the aforementioned 27%, one quarter consist of using euphemistic labels.[30] From this, Malesky and Ennis theorise that by romanticising child sexual offences, CSDs likely feel little need to dehumanize or devalue victims. Moreover, because CSDs seldom prompted each other to consider the harm of offending, there was little need to downplay such realities. Despite this, however, said results (alone) do not discount the cognitive distortions noted by Murphy and/or similar research.

Lastly, even when not studying cognitive distortions directly, various studies into child sex offenders (e.g., Cockbain et al., 2014; Laws & Marshall, 1990) have found men to claim that children benefit and/or are unharmed by sexual acts. To this point, as previously discussed, Holt et al. (2010) reported that CSDs across multiple chatrooms would romanticise and/or downplay the severity of their sexual interests and/or actions. Additionally and/or alternatively, the researchers also reported CSDs to attempt justifying their fantasies and/or less violent offences

[28] Which includes: 1) arguing abuse was beneficial (i.e., *Moral Justifications*), 2) comparing abuses to determine relative severity (i.e., *Palliative Comparisons*), 3) blaming external forces (i.e., *Psychological Justifications*) and/or 4) replacing negative terms with benign jargon (i.e., *Euphemistic Labels*).
[29] Defined within Malesky & Ennis (2004) as: identifying with prominent individuals (e.g., Oscar Wilde) reported to have sexual interests in children.
[30] Although no examples of 'euphemistic labels' were provided by Malesky & Ennis (2004), it is likely such vernacular is akin to euphemisms noted by Holt et al. (2010), see pg.50 herein.

by denouncing when children are raped using physical force (Holt et al.). One explanation for such findings might be that non-offending (male) CSDs are more prone to criticise violent rape than contact CSOs. If so, such a dissimilarity could prove useful to investigators. Notably, however, it is also worth recognising the aforementioned cognitive distortions also greatly relate to multiple, prevalent techniques of neutralisation (i.e., Denial of responsibility, Denial of injury, Denial of victims, and Condemning the condemners) which further explain Holt et al.'s findings.

In conclusion, research into cognitive distortions (and/or techniques of neutralisation) expressed by male and female CSDs reveal mostly comparable findings: with CSDs claiming that child sexual exploitation is (largely) justifiable and unharmful (Cockbain et al., 2014; Holt et al. 2010; Lambert and O'Halloran, 2008; Laws & Marshall, 1990; Malesky & Ennis, 2004; O'Halloran & Quayle, 2010). Even so, several discrepancies between studies were found. Among the most probable explanations for these observations are: 1) finite and/or limited samples, 2) differing lengths of CSDs' posts, 3) the durations over which messages were posted and/or 4) CSDs' offending histories or risk. With regards to the latter, it is conceivable that CSDs with offending histories and/or urges display differing and/or additional cognitive distortions than non-offenders in order to develop desirable narratives around such crimes. By extension, similar differences might exist between the cognitive distortions of contact and non-contact CSOs. If so, such could be valuable for identifying PDPs. Indeed, while not focused on cognitive distortions or techniques of neutralisation, research has begun to consider what communicative differences exist in relation to CSDs' offending histories.

Section 2: Comparing and contrasting CSOs communicative themes

Contact and non-contact CSOs

Recently, akin to past research, McManus et al. (2015) likewise examined themes within CSDs' chatroom posts. Unlike past research, however, this study specifically examined messages written by convicted contact (n=5)[31] and non-contact CSOs (n=7). To do this, the researchers were provided chatroom transcripts[32] and offense records by Hampshire Constabulary; which, in turn, eliminated the potentially confounding variables of: 1) police posing as CSDs, 2) CSDs utilising multiple accounts and/or 3) persons only claiming to have sexual interests in children. In addition, to minimise the chances of repetitive conversation and/or provide the study with a control, all analysed messages were written from the study's subjects to one common recipient.[33] Despite this, however, several limitations with the study remain, including: 1) a small sample, 2) redactions made to chatlogs where legally required; 3) data not generated for research purposes (i.e., *secondary data*[34]) and 4) uncertainty whether the sample's non-contact CSOs also committed undetected or unproven physical offences. Yet, even so, McManus et al. (2015) managed to identify 26 communicative themes,[35] which were subsequently classified under the broad categories of: 1) *Rapport*, 2) *Adult Relationships*, 3) *Child Sexual Interest*, 4) *Sexual Self* and 5) *Media*, which shall each be discussed.

In regards to Rapport, McManus et al. (2015) found that CSDs made 'socially normal' (pg.175) conversation for 28% of their posts. Based on comparable research, such likely indicates a desire for comradery. Evidencing this further, 10% of posts, classified under Adult

[31] To clarify, the contact CSOs within the sample also committed non-contact offences (i.e., dual CSOs).
[32] Ranging from 345 lines to 2,355 lines long.
[33] With respects to the study's common recipient, the individual was also a convicted contact CSO.
[34] For clarification on the nature of secondary sources, see Chapter 9 herein (pg.306).
[35] For specifics regarding the 26 communicative sub-themes, see McManus, et al. (2015).

Relationships, mentioned sexual and non-sexual relationships which offenders had with adults. As an example, some CSOs were found to occasionally write about issues with their significant others (e.g., wives). Using statistical analyses,[36] it was also revealed that non-contact offenders posted about consensual sexual acts with adults (real and fantasised) significantly more often than contact CSOs. To explain this, McManus et al. hypothesise that non-contact CSOs might be: 1) less sexually fixated on children than contact offenders, 2) more and/or exclusively sexually active with adults and 3) more inclined to discuss adult sexual acts to foster interpersonal relationships. Overall, however, each CSOs within the study's sample predominantly discussed child sexual interests and/or abuse.

As pertains to the thematic category of Child Sexual Relationships, McManus et al. (2015) calculated that 34% of all posts either: 1) discussed child sex offending and/or fantasies, 2) condemned mainstream ethics or 3) celebrated child sexual interests and/or actions. Relatedly, under the theme of Sexual Self, approximately 7% of posts were found to describe CSOs' sexual identities and arousal, as well as sexual acts and/or desires otherwise not classifiable. Lastly, regarding the theme of Media, in 14% of all posts, McManus et al. found CSOs to provide pictures, videos and/or sound clips—as well as initiate and/or accept webcam conversations—predominantly of a sexual nature. In relation to each of these latter thematic categories, however, no significant differences between contact and non-contact offenders were ultimately found.

For researchers, McManus et al.'s (2015) study helps to both broaden and deepen current insights into the nature of CSDs' online communications. By finding the topics of daily life and child sexual interests to be the most common, the study concurs with previous research, thereby confirming that such comments are made by individuals with genuine sexual interest in children

[36] See Chapter 7 herein for clarification.

(opposed to cybersex addicts or undercover investigators). Beyond this, the study indicates that messages regarding daily life and child sexual interests are made with similar frequency by contact and non-contact CSOs. Yet, for reasons owed to their research approach (see Chapters 4 & 5), McManus et al. did not to interpret CSDs' communications for underlying/tacit meaning. As such, while the observations that CSOs would condemn mainstream ethics and/or celebrate child sexual interests/actions indirectly indicates the presence of cognitive distortions, the study does not expressly recognise as much or explore how (potential) differences within the subtext of CSOs' comments might relate to their offending behaviours. In turn, this has left multiple gaps in knowledge for future research to fill. For these reasons (and others), therefore, such considerations will continue to be explored within the subsequent chapter.

Investigative applications of McManus et al. (2015)

With respects to law enforcement, McManus et al.'s (2015) observations are encouraging yet limited. The finding that non-contact CSOs posted significantly more about adult sexual relationships indicates such differences might be generalisable to CSDs as a whole. In theory, therefore, should a CSD being assessed by investigators be found to regularly comment on adult sexual relationships, such posts may indicate that the subject/suspect presents a relatively low risk of committing a contact child sex offence. However, that is not to say it cannot be conversely presumed that CSDs who does not discuss adult sexual relationships is more likely to commit contact offences. To be of (more) practical use, therefore, investigators require communicative features (e.g., themes) capable of distinguishing PDPs when present within their communications. Thus, research expanding upon McManus et al. is needed.

Child sexual groomers' communicative themes: relevance and findings

Continuing with this study's literature review into the communicative themes of CSDs and/or CSOs, it is imperative to note that relevant insights have been similarly provided by closely related analyses. More specifically, for their study, Williams, Elliot and Beech (2013) sought to identify the communicative themes of child sex groomers[37] (N=8) when conversing on chatrooms with presumed (underage) victims. To do this, the researchers performed thematic analyses on transcripts collected from a public repository. Because additional studies (soon to be discussed) likewise obtained data from this same resource, before reviewing Williams et al.'s findings, it is important that the aforesaid repository be briefly examined.

Based in the United States, *Perverted Justice* (PJ) is a non-profit organisation, through which trained adults (i.e., *decoys*) pose as children on chatrooms to notify police if and/or when their online personas are sexually exploited. In turn, a copious amount of chatlogs between child sex groomers and decoy victims have been made available online [38] along with details of CSOs' convictions and personal lives. To say nothing of the ethical controversies around said practices, one immediate concern with such data is that the conversations do not include actual children. For this reason, speculation can be raised regarding how representative of real-life grooming the communication truly are. Nevertheless, when attempting to understand the general nature of CSD's communicative themes, it is important to review studies which utilised PJ's repository.

[37] Strictly speaking a distinction is made between *child sex grooming*—which refers to any attempts to commit abuse and/or minimise its detection by gaining trust from victims and/or their guardians (Winters & Jeglic, 2016)—and *incitement*, denoting methods which encourage and/or prompt sexual acts from victims (Graupner, 2005). In accordance with investigators, however, CSOs guilty of either such crimes are herein termed *child sex groomers*.

[38] For further information, see the organisation's webpage: www.perverted-justice.com.

As pertains to Williams et al. (2013), their sample included eight chatlogs, each authored by separate (male) groomers, with conversations which occurred over one to two hours and demonstrated incremental steps to manipulate (decoy) victims. From said transcripts, a total of 19 subthemes and/or grooming techniques expressed were ultimately identified. Owing to such extensive findings, as well as the study's limited relevance herein, however only the primary themes of *Rapport, Sexual Consent* and *Assessment*. shall be examined.

Beginning with Rapport, Williams et al. (2013) found that groomers would often attempt to foster friendships and/or relationships with decoy victims (hereinafter 'children') through various tactics. These included, paralleling children's behaviours (i.e., *coordination*), professing shared interests (i.e., *mutuality*) and attempting to appear hospitable (i.e., *positivity*). Notably, when compared to rapport-building among CSD, similar dialogue has been reported with consistency (see chapter's previous section). Yet, be that as it may, this is not to claim attempts at comradery between CSDs are equivalent to CSOs grooming techniques. What is intriguing, however, is the prospect of whether the methods by which groomers attempt to build relationships with victims ever overlap and/or influence similar communications on CSD chatrooms. If so, this could prove to offer one variable in establishing an investigative tool.

Next, with respects to the primary theme of Sexual Content, Williams et al. (2013) found that amid and after (superficially) platonic banter, groomers would make sexually suggestive and overt comments—often attempting to gauge ideal places and paces to introduce and escalate such talk. Naturally, given the nature of the research, such was expected. By extension, so were comparable themes predictably found within CSDs' intercommunications (see chapter's previous section). Upon further considering Williams et al.'s findings, however, it is noteworthy that Linehan et al. (2001) found some CSDs (i.e., *lurkers*) to act hesitant about posting on CSD web

forums while some newcomers (i.e., *newbies*) would escalate their sexual comments to seemingly improve their status and/or gain attention. Combined, the results of these two studies emphasize that despite the anonymity which chatrooms provide, CSDs may exhibit caution or follow a process when discussing (illicit) sexual content anyone online.

Lastly, in regards to the primary theme of Assessment, Williams et al. (2013) noted that throughout each groomers' transcripts, the CSOs would regularly make comments in attempt to allay children's suspicions and/or avoid investigators or guardians' attention. More specifically, such statements typically included efforts to gauge victims' trust, vulnerability, and receptiveness, as well as confirm details about children's environments. Very frequently, these assessments were also found to correspond with rapport-building. Speaking to CSDs, because such persons' chatroom activity is often monitored by police, it is unsurprising that analyses of their intercommunications (i.e., Hole et al., 2010) have likewise noted similar, cautionary themes (e.g. *Security*). Consequently, to thoroughly understand communications between CSDs and appraise individuals' offending risk or tendencies, it is worth considering whether distinguishing features within groomers' assessment-related comments to (decoy) children remain within their peer-to-peer communications.

Taken along with CSD-focused research previously discussed, Williams et al.'s (2013) analyses help to provide insight, not only into the communicative themes in discussions between child sex groomers and (presumed) victims, but also helps to further affirm the common themes discussed and/or shown by CSDs' on chatrooms. Interestingly, from these studies, results indicate that, despite differences in gender, audiences, and offending behaviours, the general nature of CSDs' online dialogue remains ostensibly similar. With that said, the analyses of McManus et al. (2015) do note that adult (sexual) relationships may be mentioned significantly

more frequently by non-contact CSOs. Moreover, the findings of Williams et al. suggest that the tactics used by CSOs during grooming contain themes reminiscent to those within conversations between CSDs. In turn, this provides another aspect to consider in examining whether communicative themes can serve to assess CSDs' offending risk and/or behaviours. To this point, with regards to additional research into the computer mediated communications of child sex groomers, several studies have begun to test whether individuals' specific language can help to differentiate between categories of offenders.

Section 3: Linguistic analyses and child sex groomer assessment studies

Introduction

Whether spoken or written or signed,[39] language is found to be the most reliable means of directly expressing one's thoughts and feelings (Hancock, Woodworth & Porter, 2013). Imperfect and/or limited although words may be, the vocabulary which individuals use serve to craft unique messages in seemingly inexhaustible ways (Jackendoff, 1996). To comprehend and convey statements, therefore, individuals must not only possess the proper vocabulary, but also acquire insights into syntax, context and/or culture (Kess, 1992). Given the complexity of such phenomena, to thoroughly discuss them herein would be infeasible.[40] Nevertheless, in recognition of the psychological and/or personal insights which linguistic analyses can provide, it is imperative to consider how such research applies to the present study.

To start, it has long been established that individuals' emotions can affect their use of language, whether spoken or written (Tausczik & Pennebaker, 2010). In turn, researchers have

[39] See Mantovan, Giustolisi & Panzeri (2019) for insight into the functionality and expressivity of sign language(s).
[40] For a comprehensive introduction to psycholinguistics, see Cutler (2017) and Menn & Dronkers (2016).

found that linguistic analyses can provide insight into individuals' emotions and/or psychologies, such as: distinguishing between memories and fantasies (e.g., Undeutsch, 1989), identifying deception (e.g., Hwang, Matsumoto, & Sandoval 2016), gauging psychopathy (e.g., Hancock et al., 2013) and discerning interpersonal relationship issues (e.g., Slatcher, Vazire & Pennebaker, 2008). When considered in relation to known risk factors for contact sexual offending (e.g., dysfunctional schemas,[41] interpersonal relationship issues, negative emotions, antisocial personality disorder, etc.), it is easy to consider how such research might assist investigators with identifying potentially dangerous CSDs.

At present, however, no study (known to the researcher) has applied linguistics analyses to the intercommunications between CSOs and/or CSDs online. Yet, quite recently, multiple studies (i.e., Black et al., 2015; Chiu et al., 2018; Drouin et al., 2017; Seigfried-Spellar, 2019; Parapar et al., 2012; Pendar, 2007) have examined what insights linguistics might serve to assess the electronic communications of child sex groomers and their (presumed) victims. As such, the present chapter shall review the aforementioned research. In order to adequately consider such matters, however, is it imperative to first provide a cursory review of commonly used linguistic analysis tools.

Computerised text analyses: Common tools and principle uses

Initially, the field of modern psycholinguistics[42] relied on the judgement of trained analysts (Tausczik & Pennebaker, 2010). Owing to concerns of potential biases and ambiguous methods, however, this dependance on interpretations of highly subjective content called into question the reliability of psycholinguistic research (Tausczik & Pennebaker, 2010). In response,

[41] Schema: a personal, mental classification of information to understand a concept (Athey, 2007).
[42] Modern psycholinguists is frequently attributed to Freud (1901); although, this remained debated.

more empirical methods were developed. Early on, the Gottschalk-Gleser scoring scheme (i.e., Gottschalk & Gleser, 1969; Gottschalk et al., 1958) was created, which involved participants speaking for a designated length of time before researchers code all themes and gauged their degree of association with certain psychological states (e.g., anxiety, depression, hostility, etc.). Yet, despite this more systematic process, the risk of biases remained.

In their review of psycholinguistics methodologies, Pennebaker and Beall (1986) observed three primary shortcomings: 1) disagreement between analysts' interpretations of deeply personal stories, 2) analysts becoming saddened by upsetting stories and 3) analyses proving time consuming and/or costly. Crucially, during this same period, technological developments resulted in tools which helped to perform linguistic analyses (Tausczik & Pennebaker, 2010). At first, these *computerised text analysis* (CTA) programmes were created using scoring schemes to evaluate the degree to which particular words and/or phrases related specific themes (tenuously) linked to mental disorders and/or personality traits. As one example, the *General Inquirer* programme operated using custom coding schemes, which required the software's developers (i.e., Stone et al., 1966) to create computer codes to search for specified features within text. In this way, the General Inquirer began to replace psycholinguists' use of analysts, yet remained extremely limited in its applicability. Moreover, because the programme's actions[43] were not visible to users, such software was also considered ambiguous in its processes (Tausczik & Pennebaker, 2010).

To develop more transparent CTA programmes, researchers began to abandon abstract scoring schemes to focus on indisputable, linguistic features. By manually categorising and

[43] In relation to the General Inquirer (and within the context CTA programmes) the term 'actions' typically entails how software manipulates and weighs variables (e.g., the prevalence or correspondence of linguistic features).

counting each word within examples of writing and speech, Weintraub (1981; 1989) found that an above-average use of first-person singular pronouns (e.g., *I, me, my,* etc.) was linked to depression. From this, the possibility that an individuals' every-day vocabulary could provide insights into their psychology was established. Since then, researchers have worked to develop numerous CTA programmes. Within this thesis, however, focus will be afforded to the two most relevant programmes: *Linguistic Inquiry Word Count* (LIWC) and *Wmatrix*.

Linguistic Inquiry Word Count (LIWC)

Building on the discovery that word-frequencies can reveal aspects of individuals' psychologies, Francis and Pennebaker (1993) developed software capable of categorising and calculating the prevalence of words within a text file (i.e., *corpus*). To do this, multiple panels of independent analysts worked to classify words based on their function and meaning. Subsequently, these same panels blindly assessed each other's classifications, so that only words similarly grouped by two-thirds by all analysts remained. In the end, it was found 93%-100% of classified words were similarly categorised. From this, Francis and Pennebaker developed the programme *Linguistic Inquiry and Word Count* (LIWC),[44] which sorts the vocabulary within corpuses into word categories and then calculates the percentage of a text's total wordcount grouped within each category. Likewise, such percentages can be calculated for specific words.

Since its advent, LIWC has undergone numerous updates and proven effective at identifying correlations between person's language and aspects of their lives and/or mental states (Tausczik & Pennebaker, 2010). In one of its latest versions[45] (i.e., Pennebaker et al., 2015a),

[44] Pronounced as the name *Luke*.
[45] Following shortly after this study's analyses, the newest version of the programme (i.e., LIWC-22) was released. As such, while the results of this research should remain largely consistent with the latest software available, it must be recognised that differences will exist.

LIWC includes a total of 90 output variables, which are themselves comprised of the following subcategories: 1) summary language variables, 2) general descriptors, 3) standard linguistic dimensions, 4) psychological constructs, 5) personal concerns, 6) informal language markers and 7) punctuation (see Appendix F). With approximately 6,400 words comprising said categories (i.e., *dictionaries*), the software is able to classify an average of 85.18% of words and/or punctuation marks (Pennebaker et al. 2015b). Moreover, the programme allows researchers to create custom dictionaries. As an example, jargon used CSDs, such as *newbies, wise ones, regulars* and *trolls* (see Linehan et al. 2001; as cited in O'Halloran & Quayle, 2010) could theoretically be categorised under one theme (e.g., *chatroom hierarchies*[46]). However, to this point, it is recognised within LIWC's operation manual[47] (see pg. 19 of Pennebaker et al., 2015b) that using custom dictionaries can present multiple issues with the software's performance.

Additionally, as effective as LIWC continues to prove, the programme is of relatively limited use. By treating each word within a text as a distinct/isolated unit, LIWC fails to recognise context, irony, sarcasm, and/or idioms (Tauscik & Pennebaker, 2010). Without regard for syntax, therefore, the software is unable to code words by their underlying meaning (i.e., latent-content). Owing to this shortcoming, as well as the complications presented with using custom dictionaries, recent studies have begun to utilise relatively nuanced and/or versatile programmes, such as Wmatrix.

[46] As previously discussed, Linehan et al. (2001) remains unpublished. The thematic code of 'chatroom hierarchies', therefore, was invented by this study's researcher for the purpose of providing an example
[47] For a further details on LIWC, resources are available on the developers' website: https://liwc.wpengine.com/.

Wmatrix

Akin to LIWC in many ways, Wmatrix likewise uses pre-coded and customisable dictionaries to categorise words within corpuses and then calculate corresponding percentages, compared to the text's total wordcount (Rayson, 2003; 2008). With respects to the software's ability to run customed dictionaries, the programme has proven relatively effective and reliable, and requires minimal programming knowledge (Rayson, 2008). Moreover, in regards to Wmatrix's primary benefit, the software's coding enables it to analyse syntax by using lexicons/dictionaries of multi-word units (i.e., *idioms*) which evaluate parts of speech in relation to neighbouring words (Rayson, 2008). As a result, Wmatrix can correctly classify identical words with differing meaning (i.e., *homonyms*[48]) with a 97% accuracy and correctly classify synonyms (i.e., *cash* and *dollar*) under one semantic category (i.e., *money*) with a 92% accuracy (Hancock et al., 2013; Rayson, 2008). When analysing sentences such as 'the parent yelled at their child' and 'the child yelled at their parent', therefore, Wmatrix is able to recognise such distinctions (Mehl & Gill, 2010). In comparison to LIWC, therefore, the latter programme is undeniably sophisticated. Yet, in order for Wmatrix to be used, researchers are required to submit their data to an online repository (operated by the software's provider), which can present a distinct complication for studies analysing legally sensitive material. To assess how linguistics and computer textual analyses might be best utilised within CSO-focused research, it is practical to first recognise studies which have begun answering such queries.

[48] As clarified within Hancock et al. (2013), an example of a homonym which Wmatrix can classify is the word *fly*, which can be used as either a noun (i.e., the insect) or a verb.

Section 4: Linguistic analyses and child sex groomers

Nascent although the research area may be, recent studies have started examining whether (contact-driven) child sex offenders can be identified by the language used within their computer mediated communications (see Table 3.3). More specifically, as within Williams et al. (2013) these studies have focused on analysing conversations held between child sexual groomers and their (presumed) victims. Importantly, therefore, as interrelated as the present study's aims and implications are to the literature detailed within this chapter, the focus of the current analyses nonetheless offers a unique contribution to the field, providing novel insights into the language of CSDs' intercommunications and trialing a new method for assessing such individuals offending risks and/or histories.

Table 3.3: Research into the language of child sex groomers' electronic communications

Study	Methodology	Data source	Chatlog sample	Offender sample
Pendar (2007)	Automatic text categorisation techniques, *k-NN* classifiers, and *f*-measurements	Perverted Justice repository	701 transcripts	Unspecified*
Parapar et al. (2012)	LIWC and Logistic Regression classifiers	Unspecified	Training: 97689 transcripts Test: 218702 transcripts	Unspecified (predatory and non-predatory groomers)
Black et al. (2015)	LIWC, *F*-tests and Chi squares	Perverted Justice repository	44 transcripts	Unspecified*
Drouin et al. (2017)	LIWC, t-squares and correlation coefficients	Perverted Justice repository	590 transcripts	Unspecified*
Chiu et al. (2018)	LIWC and statistical discourse analysis	Ventra County Sheriff's Department (CA) and Iowa Department of Public Safety (IA)	107 chat sessions	5 Contact-driven 4 Fantasy-driven
Seigfried-Spellar et al. (2019)	LIWC, Support Vector Machines (SVMs) and accompanying algorithms	Perverted Justice repository	271 transcripts	Unspecified* (contact-driven and fantasy-driven groomers)

*The Perverted Justice website sorts all chatlogs by pairing them with pages designated to each specific offender. Therefore, the number of transcripts analysed within a study should reflect the number of groomers within a sample.

Beginning with what may be the first linguistic analyses into child sex groomers, Pendar (2007) analysed 701 transcripts from the Perverted Justice (PJ) database to develop automatic text categorisation techniques for distinguishing between the communications of offender and (decoy) victims. Regrettably, the researcher did not provide rationale for the need to compared the language of child sex groomers and their victims.[49] Moreover, in relation to the study's method, the researcher did not use preexisting software but instead produced unique codes and equations to identify key vocabulary and/or phrases and then gauge the significance of said features and their interrelations. Given this heavily technical approach, however, to examine the mathematics is beyond the scope of this review. In addition, while it is worth noting that Pendar did report identifying linguistic differences between the messages of groomers and child decoys, no specifics were definitively stated. Yet, even so, what is important to recognise is that as the study's results did suggest linguistic idiosyncrasies exist among CSOs (i.e., groomers) which can distinguish them from other populations (i.e., decoy victims). In turn, it may be that linguistics could serve to discern between CSDs/CSOs with differing risk levels and/or offending histories. Indeed, as research into this area has continued, such potential has been increasingly bolstered.

With similar aims as the previous study, Drouin et al. (2017) likewise sought to compare the comments of groomers and decoy victims by analysing PJ chatlogs (N=590). Consequently, it is important to note that some transcripts included within this study's sample may overlap with chatlogs examined by Pendar (2007). Yet, even so, unlike with preceding research, Drouin et al.'s study utilised the programme of LIWC. Focusing on features hypothesised to be particularly evident (i.e., high scoring) within groomers' chatlogs, Drouin et al. used LIWC to compare the

[49] In theory, any tool which could isolate suspects' comments could conceivably help investigators and/or analysts assess lengthy transcripts. However, as stated, it is unknown if such rationale was considered by Pendar (2007).

scores of CSOs and decoys victims in relation to the groups' total word count and what percentage of vocabulary was classified as either sexual in nature or demonstrating social dominance (i.e., *clout*[50]).

Predictably Drouin et al. (2017) found that groomers not only had significantly higher wordcounts in 66% of cases but also higher percentages of sexual words and displays of clout, in 91% and 82% of transcripts respectively. By extension, these results raise the question of whether similar linguistic features and methods might help identify and/or assess CSOs' offending histories and/or severity, based on their communications with fellow CSDs. Relatedly, because CSD-focused research has reported the presence of social hierarchies among online communities (i.e., Linehan et al., 2001), and because research into CSO syndicates has found individuals who commit contact offences are often held in higher regards among peers (i.e., Cockbain et al., 2014), it might be that even when speaking with fellow CSDs (opposed to decoy victims), more serious/dangerous offenders' language will convey greater clout. However, because PJ officials are prohibited from encouraging sexual dialogue and/or communicating like an adult, this might (in part) also explain Drouin et al.'s results.

With this said, beyond Drouin et al.' (2017) analyses, additional research into the communications between child sex groomers and their (presumed) victims have likewise utilised LIWC. In one such study, Black et al. (2015) endeavoured to determine if the stages of online and offline grooming could be linguistically identified (see source for details).[51] Alternatively, further research has attempted to assess whether LIWC could identify particularly dangerous child sex groomers. To clarify, Parapar et al. (2012), Chiu et al. (2018) and Siegfried et al. (2019) all aimed to identify linguistic indicators of potential contact offenders among online

[50] See Tausczik and Pennebaker (2010) for elaboration.
[51] It is worth noting, that Black et al., (2015) also used chatlogs from Perverted Justice.

child sex groomers. Dividing their respective samples into either *predatory* v. *non-predatory* or *contact-driven* v. *fantasy-driven* categories, these offender dichotomies each referred to groomers who committed and/or traveled to commit physical child sex offences versus groomers who only attempted or committed non-contact offences. Beyond these similarities, however, the approaches of the aforementioned studies notably differ.

Proceeding chronologically, with Parapar et al. (2012), their study sought to use LIWC[52] to develop software capable of acting as an investigative tool for identifying *predatory* (i.e., contact-driven) child sex groomers. Hoping to make their findings as generalisable as possible, the researchers used multiple, large samples of chatlogs. Unfortunately, with regards to the data, the researchers did not specify how it was obtained or how it was processed for LIWC analyses. Moreover, between the two samples (N=92,689 and N=218,702), only 378 groomers in total (n=124 and n=254 respectively) were predatory offenders. Nonetheless, after performing extensive statistical adjustments to correct for such imbalances (see source material), it was found that enough significant linguistic differences were identified between predatory and non-predatory groomers that Parapar et al. (2012) were able to program an investigative tool (*PAN 2012*) which outperformed most similar software.[53]

Unfortunately, as with Pendar (2007), while the computational formulas which Parapar et al. (2012) used to develop *PAN 2012* were well-detailed, the LIWC scores for predatory and non-predatory groomers remained unspecified. Thus, it is not evident in what ways the two offender categories differed in their communications with (presumed) children. Be that as it may, while Parapar et al.'s highly technical analyses remain beyond the scope of this review, their findings do indicate that a linguistic tool can be used to identify (potential) contact-driven CSOs

[52] In this instance, the researchers were using the programme's less developed version: LIWC 2007.
[53] For specifics on how PAN 2012 performed within each test, see the source material.

online. This being said, since the study's publication, no further research into the application of PAN 2012 has been conducted and/or published. Fortunately, however, other analyses have attempted to perform similar research.

Working with transcripts and arrest records provided by United States police,[54] Chiu et al. (2018) similarly sought to compare the language used by contact-driven (n=5) and fantasy-driven (n=4) offenders when grooming genuine children (n=12). As such, despite the small number of offenders, Chiu et al.'s sample may be the most representative of real-world grooming, in comparison to recently reviewed research. (Although, when considering the study's findings, it is imperative to bear the sample size in mind.) With this said, by using LIWC to compare groomers' total wordcounts, first-person pronouns, positive emotion words (e.g., *happy, joy, love*) and negative emotion words (e.g., *sad, angry, hurt*), numerous differences were found.

With regards to first-person pronouns, Chiu et al. (2018) report that contact-driven groomers used such vocabulary in 13% more of their messages than fantasy-driven offenders. Likewise, it was reported that both positive and negative emotion words were (each) found in 6% more messages of contact-driven offenders. In regards to each of these results, all proved statistically significant.[55] Subsequently, in relation to first-person pronouns, Chiu et al. (2018) hypothesise that such differences may be owed to more instances of self-disclosure on the part of the offender. This theory is based on findings that groomers may reveal personal details to seem more trustworthy (see Medaris & Girouard, 2002; O'Connell, 2003) and that offenders' language changes with their grooming tactics (i.e., Black et al., 2015). Before delving further into potential explanations for these linguistic differences, however, it is important to review the most recent study into child sex groomers' vocabulary.

[54] The Ventra County Sheriff's Department (CA) and Iowa Department of Public Safety (IA).
[55] For specifics on the statistics used, refer to the source material or see Chapter 7 Section 4 herein.

Taking inspiration from Chiu et al. (2018), Siegfried et al. (2019) likewise utilised LIWC to determine if contact-driven and fantasy-driven child sex groomers exhibited significant differences in their use of first-person pronouns, positive emotion words and negative emotion words. To secure their data, however, Siegfried et al. chose to collect transcripts (N=271) from Perverted Justice rather than law enforcement, entrusting a larger sample to yield more generalisable findings than fewer examples of genuine grooming. Additionally, beyond running their dataset through LIWC, the researchers also used *support vector machines* (SVMs), which, in essence, serve to estimate the probability of a chatlog belonging to a contact-driven offender, based on their (specified) linguistic features. Owing to the complexities of using SVMs, however, to explain the algorithms herein remains beyond the scope of the present study.

This being said, as within Chiu et al. (2018), Siegfried et al. (2019) ultimately found that contact-driven groomers used significantly more first-person pronouns, positive emotion words and negative emotion words than fantasy-driven offenders. Likewise, as previously theorised, these differences could be owed to dissimilarities in CSOs' grooming strategies and/or their aims of committing either physical or non-physical offences. Once again, however, the researchers did not attempt to provide an in-depth explanation. Similarly, nor were specific any LIWC scores reported. However, in relation to the study's use of SVMs, it was found that by using groomers' LIWC scores, contact-driven CSOs could be correctly identified 87.1% of the time. From these findings, Siegfried et al. developed the *Chat Analysis Triage Tool* (CATT). However, as of now, the programme remains to be thoroughly tested for real-world use. Additionally, even if the tool proves effective, the CATT is programmed to analyse communications between child sex groomers and (decoy) children, not between multiple CSDs and/or CSOs. Thus, the linguistic

analyses of electronic communications between CSDs would remain a unique contribution to the field of research.

Taken together, the studies discussed within this section demonstrates that linguistic analyses and/or software (e.g., LIWC) can be for CSO-focused research. While not directly related to the present study, the abovementioned research indicates that the language of child sex groomers not only differs from their (presumed) victims' (i.e., Drouin et al., 2017; Pendar, 2007), but also between contact-driven and fantasy-driven groomers when messaging (supposed) children (i.e., Chiu et al., 2018; Parapar et al., 2012; Siegfried et al., 2019).

From these findings with regards to groomers' communications, it is reasonable to infer that similar analyses may reveal comparable linguistic indicators of persons' offending risks and/or tendencies within communications between CSDs. Indeed, for this reason, it is important to consider what other psychological insights linguistic research can provide with identifying potentially dangerous persons online. As such, for the following section, attention will be given to studies which have examined links between language and variables which sex offence research has identified as risk factors for committing contact offences.

Section 5: Psycholinguistics and contact sexual offence risk factors

Negative affect and/or depression

As addressed in Chapter 2, it is well-established that persons with sexual interests in children often experience resulting negative emotions (Ward & Beech, 2006). In select cases, these feelings may impel individuals to commit contact sexual assaults, making affect among the primary risk factors for assessors consider (Ward & Beech). What is more, along with changes to

cognitive processes (e.g., adverse thoughts, self-focus, etc.), individuals with negative affects and/or depression often experience effects on their language (Bernard et al., 2016). For example, studies into the writings of suicidal individuals report a greater use of first-person singular pronouns than is typical of the general populace (i.e., Fernández-Cabana et al., 2013; Stirman & Pennebaker, 2001). Considered in relation to the current research, because adverse emotions are rife among CSDs, to simply identify individuals suffering negative emotions might do little to distinguish potentially and/or especially dangerous persons. For this reason, an ideal investigative tool would (also) serve to discern CSDs with the most severe adverse emotions. Auspiciously, psycholinguistics has proven equally (if not more) effective at identifying depression than clinicians (Tauscik & Pennebaker, 2010). When applied to CSDs, therefore, it might be that individuals whose language display signs of depression are more likely to be potentially or especially dangerous persons.

Predictably, when individuals experience and/or comment on positive and negative events, their vocabulary will typically use emotional language to discuss the topic (Tauscik & Pennebaker, 2010). Beyond these circumstantial effects, however, psycholinguists are also able to detect chronic unhappiness and/or depression, as well as the cause and effect of stressors.[56] Evidencing this (albeit without linguistic software), Breznitz (2001) examined the language of married mothers, with (n=11) and without (n=11) clinical depression. By having participants speak about family-related matters, it was found that depressed women not only used more negative emotion descriptors, but would specifically use more anger-associated words in regards to family members and more sadness-themed words with respects to themselves. Additionally,

[56] In addition, psycholinguists are also able to distinguish between persons with depression and individuals merely feigning the illness (see Cannizzaro, Reilly & Snyder, 2004). However, while potentially relevant, such research remains beyond this study's focus.

non-depressed participants made more emotionally neutral statements. In all cases, these differences were found to be statistically significant.

Bearing in mind the study's small sample size, Breznitz's (2001) results appear to indicate how a person's general affect and specific emotions can be gleaned from their word choices, even when discussing inherently neutral topics.[57] That being said, criticism can still be raised as to whether such differences would remain if participants were allowed to speak about other topics. As discussed below, however, since Breznitz's analyses, additional studies have shown that linguistic trends within general speech can reveal signs of depression.

As with physical pain, research has found that emotional hurt often draws sufferers' attention toward themselves (e.g., Rude, Gortner & Pennebaker, 2010). When considered along with findings such as suicidal individuals' copious use of first-person pronouns (i.e., Fernández-Cabana et al., 2013; Stirman & Pennebaker, 2001), therefore, researchers theorised that this change in persons' self-focus can explain changes in their language (Tauscik & Pennebaker, 2010). Despite this, however, no actual causal relationship between depression or suicidal thoughts and effects on individuals' writing and/or speech were initially established. To this point, the same can be said of Breznitz's (2001) findings. In order to test for causational relations between negative emotions and vocabulary, therefore, Bernard et al. (2016) sought to identify linguistic differences between individuals with differing dispositions and/or affects.

After measuring the general emotional states of 136 university undergraduates,[58] Bernard et al. (2016) categorised participants into the groups of negative (n=46), positive (n=45)

[57] To clarify, while it is recognised that the subjects of family and/or oneself can be positive or negative, their emotional effects and/or significance are subjective (i.e., dependent on circumstances and/or the individual).

[58] See the *Center for Epidemiological Studies–Depression Scale* (CES-D; Radloff, 1977), the *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988) and the *International Affective Picture System* (IAPS; Lang, Bradley, & Cuthbert, 2008).

and neutral (n=45) affects. Subsequently, the subjects were asked to speak for 20 minutes on their academic experiences. Unlike with Breznitz (2001), Bernard et al. then had all participants' statements processed through LIWC. In so doing, participants in the negative affect group were found to use significantly more negative emotional words and third-person pronouns (e.g., *she, he, they*, etc.) than the other affect categories. Interestingly, moreover, it was revealed that negative affect subjects also used the word '*I'* with a frequency relatively the same as persons determined to have generally positive affects. However, when depressed participants were isolated/extracted from the negative affect group, it was found that their use of '*I'* was significantly higher than all other participants. As such, Bernard et al. (2016) demonstrated that the intensity and/or duration of a person's negative affect likely causes a change in their language, as depression shifts sufferers' attention inwards.

When considered in relation CSDs and the present study, the aforementioned findings offer several noteworthy observations. To start, it is worth iterating that, studies into the language of child sex groomers find contact-driven offenders use significantly more first-person pronouns, positive emotion words and negative emotion words than fantasy-driven groomers (i.e., Chiu et al., 2018; Siegfried et al., 2019). In response, it was reasoned that these distinctions were owed to differences in grooming tactics, involving more self-disclosure from contact-driven offenders. Yet, if such explanations prove true, then it is reasonable to question whether contact-driven groomers' copious use of negative emotion terms and the word *'I'* might also indicate genuine distress and/or depression. By extension, because adverse emotions are common among persons with sexual interests in children and known risk factors for contact offending (see Ward & Beech), the fact that contact-driven groomers exhibit the same linguistic indicators of negative

affect and/or depression suggests the similar trends may exist within the intercommunications of CSOs/CSDs and, therefore, warrants testing.

With all this said, it must be acknowledged that the abovementioned hypotheses remain somewhat speculative. Given the abundance psycholinguistic research, and lack of application to child sex offenders, there are numerous complications which must be addressed. Thus, before discussing how the abovementioned finding apply to the present study, it is worth examining what other sex offence risks factor linguistics research show promise with detecting.

Psychopathy

Most closely related to *Antisocial Personality Disorder* (ASPD), *Oppositional Defiant Disorder* (see the DSM 5, 2013) and/or the international equivalent of *Conduct Disorder* (see World Health Organization, 2022), *psychopathy* is a professionally recognised psychological condition, characterised by a general lack of sympathy or empathy, often paired with selfishness, insensitivity and impulsively (Hare, 1991; 2003). Estimated to afflict approximately 1% of the general population (i.e., Porter, Birt & Boer, 2001), the condition does not predestine sufferers to lives of crime. However, given that 15-25% of the male prison population in the US is estimated to be psychopathic (Porter et al.), those with the condition are reported to be more inclined to breach social norms and/or laws. Moreover, as touched upon within Chapter 2 (pg. 40), Briggs et al. (2011) found that 10% of their sample's contact-driven CSOs (n=30) were diagnosed with ASPD, opposed to 0% of fantasy-driven CSOs (n=21). Based on such research, antisocial behaviour and/or impulsivity are considered primary risk factors for contact sexual offending (see Ward & Beech, 2006). Thus, when assessing the intercommunications between CSDs, one

means of identify potentially and/or especially dangerous persons might be to distinguish which individuals may demonstrate psychopathic and/or antisocial tendencies.

Even before the behavioural criteria now used to define and identify psychopathy was established (i.e., Hare, 1991; 2003), it was reported by Cleckley (1976) that individuals exhibiting psychopathic characteristics often spoke with a tangential and/or incoherent quality. Subsequently, Williamson (1993) decided to compare the spoken narrations of psychopathic (n=21) and non-psychopathic (n=15) persons (albeit without linguistic software). In the end, the study noted psychopaths use more contradictory and/or inconsistent statements—often going off topic and making illogical arguments. Shortly thereafter, Brinkley et al. (1999) analysed the narratives of prisoners (N=39) with varying degrees of psychopathy and found the more psychopathic subjects to be less articulate and/or cohesive when formulating personal narratives and/or answering (open-ended) questions. While these studies did not confirm linguistic idiosyncrasies among psychopaths, therefore, they did provide a foundation for modern research.

Focusing on 14 psychopathic and 38 non-psychopathic, Canadian males incarcerated for homicide, Hancock et al. (2013) compared the groups' language when asked to recount their crimes. Unlike previously discussed research, participants within this study were given no time limit for speaking and encouraged to provide as much detail as possible. In regards to this decision, it is worth recognising that by granting permission to speak for as long as desired, some offenders may have talked an uncharacteristic amount in order to delay returning to normal prison routine. Relatedly, it is also worth bearing in mind that the study is using a relatively small sample, with a disproportionate number of psychopaths and non-psychopaths. That said, Hancock et al. made sure to correct for this inequality in all subsequent statistical tests.

In regards to Hancock et al.'s (2013) linguistic analyses, the researchers primarily relied on the Wmatrix programme, which, as previously explained (see pg.77), sorts words into categories and then calculates their prevalence/frequencies (Rayson, 2003; 2008).[59] As such, one feature of interest was whether psychopathic offenders would use more disfluencies (e.g., *uh* and/or *um*), based on past observations that psychopaths were relatively inarticulate (i.e., Brinkely et al., 1999; Cleckley, 1976; Hare, 1993; Williamson, 1993). Beyond this, the researchers were also curious about participants' use of vocabulary relating to: food, drink, clothing and money. Because psychopaths are often less able and/or willing to foster affectionate relationships (Hare, 2003), Hancock et al. reasoned their language might reflect a prioritisation of *basic needs* (concerning physical wants and existence) over *higher needs*, such as social and philosophical matters (see Maslow, 1943). Relatedly, it has long been established that *content words* (i.e., nouns, verbs, adverbs and adjectives) 'explicitly reveal where individuals are focusing' (Tausczik & Pennebaker, 2010 pg.30). Because the motives and/or causes of murders committed by psychopaths are regularly owed to baser needs (see Porter & Woodworth, 2007; Woodworth & Porter, 2002), Hancock et al. predicted this would manifest in their vocabulary. Lastly, the researchers also predicted that psychopaths would describe their murders using more: 1) *subordinating conjunctions* (e.g., *because, since, as, so*, etc.), 2) articles (i.e., *the* and *a/an)* and 3) verbs in the past tense. This was reasoned due to psychopaths' relative emotional detachment, which might incline such persons to describe their offence from a *cause-and-effect* perspective and/or as an event removed from the present.

With all this said, in regards participants' articulation, Hancock et al. (2013) found that psychopathic offenders used 33% more disfluencies than non-psychopathic offenders—a

[59] To this point, it should noted that in addition to Wmatrix, Hancock et al. (2013) also used LIWC to (seemingly) assure the select results were similar. However, while these scores were reported in detail.

difference which proved to be statistically significant. As pertains to word categories involving basic needs, Wmatrix scores revealed psychopaths to use vocabulary relating to eating, drinking and money twice as much as non-psychopaths. In contrast, non-psychopaths were found to use more terms relating to familial, religious, and/or spiritual matters.[60] In relation to each of these linguistic differences, all were found to be statistically significant. Relatedly, so were psychopaths found to use significantly more subordinating conjunction, articles and past tense verbs than non-psychopaths, who instead used more present tense verbs.

Taken together, these findings of Hancock et al. (2013) strongly suggest that the language used by psychopaths to describe their crimes may distinguish them from non-psychopathic counterparts. When applied to assessing CSDs, therefore, it may be that the communications of individuals with psychopathy and/or antisocial tendencies are similarly identifiable. To this point, because antisocial behaviour is a known risk factor for contact sexual offending (see Briggs et al., 2011; Ward & Beech, 2006), it may be that by discerning psychopathic and/or antisocial CSDs, investigators would be better adept at distinguishing potentially and/or especially dangerous persons.

Returning to results of Hancock et al. (2013), it is also worth noting that beyond their use of Wmatrix, the researchers employed the *Dictionary of Affective Language* (DAL) programme (i.e., Whissel & Dewson, 1986). Simply put, the DAL assesses the emotional weight of statements by analysing multi-word comments (i.e., *phrases*) which are scored along scales of three dimensions: 1) *affect* (i.e., feelings), 2) *activation* (i.e., tense), and *imagery* (i.e., description). Thus, after Hancock et al. split their psychopathic participants between individuals with more affective and interpersonal difficulties and participants demonstrating more

[60] Using LIWC, Hancock et al., (2013) subsequently confirmed that no participants had particularly high uses of any specific words categories which may have skewed the results.

impulsivity and/or petulancy,[61] the researchers found that the latter group positively correlated with adverse emotions and negatively correlated with intense feelings. As was hypothesised, therefore, these results suggest that psychopaths lack of empathy towards victims and/or guilt over their crimes. In turn, the DAL could possibly be used to gauge adverse emotions among CSDs and, consequently, help identify potentially and/or especially dangerous persons.

Honesty and deception

Whenever monitoring communications between CSDs, one primary concern for police is determining whether confessions made about committing contact child sex offences are real or fictitious. By extension, a related concern to consider is whether false statements and/or attempts at deception might influence a person's language. Indeed, as shall be imminently clarified, it may be that misleading statements and/or lies obscure otherwise typical indicators of psychopathy and/or negative emotions (examined above). As such, the following section shall review what linguistic idiosyncrasies can help identify deceptive statements and whether these features may pose an issue with any additional analyses.

Serving to modernise psycholinguistic research into deception, Newman et al. (2003) sought to identify differences between honest and misleading speech, using computer textual analyses. For their study, the researchers divided 287 participants into five groups to discuss various issues, with half the sample assigned to provide truthful opinions and the other half instructed to lie. To assess participants' statements, LIWC was once again used, along with statistical analyses to determine whether any differences were significant. In the end, it was

[61] As distinguished by Factors 1 and 2 of the Psychopathic Checklist-Revised (PCL-R), see Hare (2003).

found that liars showed lower cognitive complexity,[62] used more negative emotion words and used fewer references to themselves and others. Furthermore, by using participants' LIWC scores, it was found that computer-based analyses could identify liars in 67% of cases when the topic of conversation was constant and 61% of the time when discussions were less focused. By comparison, trained analysts were able to identify deception in 52% of cases—a difference which statistical testing proved to be significantly lower than computer-based analyses.

As pertains to the present study, Newman et al.'s (2003) findings present multiple potentials. Firstly, if the abovementioned linguistic features do significantly correlate with attempts at deception, it may one day prove feasible to assess CSDs' claims of child sex abuse. By extension, the ability to gauge the truthfulness of CSDs' claims might help identify CSOs with especially concerning offending histories and/or tendencies based on their claims of abuse. That being said, because atypically high use of negative emotion words is also a known indicator of both negative affect/depression and psychopathy, it is difficult to hypothesise if and/or how attempts at deception would complicate assessing CSOs' mental states. Consequently, it is uncertain whether the tendency to refer to oneself and others less while lying might negate the tendency of persons with negative affects to use more third-person pronouns and/or depressed individuals' tendency to use more first-person pronouns. To better assess if and/or how attempts at deception might be tested for among CSDs' intercommunications, therefore, additional research must be considered.

[62] Vocabulary associated with cognitive complexity by LIWC include words with six or more letters and vocabulary categorised under the themes of *cognitive processes* (e.g., *know, this, cause,* etc.) and/or *relativity* (e.g., *space, time, motion verbs,* etc.).

In a study which likewise used LIWC, Bond and Lee (2005) assessed 76 truthful statements and 76 deceptive statements from male and female US prisoners (N=64).[63] To obtain said statements, participants were asked to watch three crime-related videoclips and three non-criminal videoclips before providing a mix of truthful and deceptive comments. From this, it was found that honest statements contained significantly more *perceptual sensory words* (e.g., *hear, smell, see, feel*) and references to self (e.g., *I, me, my*) while misleading comments contained significantly more *spatial words* (e.g., *up, down, in, out*). Additionally, initial statistical analyses revealed that by referring to the aforementioned linguistic features, deceptive statements could be distinguished 69.7% of the time while truthful statements were correctly identified in 68.4% of cases. Together, these results appear to affirm and expand the work of Newman et al. (2003). However, when Bond and Lee split their sample between older and younger participants (ages unspecified), it was revealed that deception could be correctly identified 71.1% of the time among younger offenders but only in 50% of cases with older prisoners. Consequently, the question must be asked to what extent the variable of age may influence individuals' language, particularly when asked to lie. To this point, because the above-mentioned analyses of Newman et al. compared honest and deceptive statements from young adults, it is important to question whether participants' ages influenced the study's results.

Bearing the aforementioned critique in mind, in attempt to identify other variables (aside from age) which may affect individuals' vocabulary when lying, Hancock et al. (2008) examined whether the perceived importance of deception influenced the language of university-aged/young adult participants (N=70). As such, subjects were instructed to converse via computer mediated communications, with select participants instructed to mislead their partners–

[63] It should be noted that the ratio of male to female participants remained unspecified within the study, as did the offences for which participants were convicted.

for which distinctions being made between *high* and *low* motivated liars.[64] In the end, by using LIWC, Hancock et al. found deceivers in general to produce higher wordcounts, more sense-based words, more other-oriented pronouns and used fewer self-oriented words than non-deceivers. Additionally, it was reported that highly motivated liars used significantly more *negations* (e.g., *no, not, never*) while less motivated liars used fewer *causal terms* (e.g., *because, effect, hence*) than other participants. Consequently, not only does this study contradict Newman et al.'s (2003) finding that deceptive statements contain fewer other-orientated words, but so do Hancock et al.'s results introduce the possibility that individuals' motivation levels may influence their language when making a false and/or misleading statements. In relation to CSDs, this latter finding is of especial importance.

As reviewed within Chapters 2, it has been noted that due to their (perceived) anonymity, when people discuss and/or explore sexual interests online, their actions and/or comments can be both cautious and reckless, often at the same time (Young, 2008; 2010). When engaging with especially deviant and/or illicit content, therefore, a person or groups' level of deception (e.g., lying, roleplaying, denying) may vary greatly, depending on the degree of risk they perceive (Young 2008; 2010). Indeed, as previously mentioned (see pg.57) in relation to Holt et al. (2010), their examination of comments on a CSD chatroom found some users to be especially wary about making incriminating posts, resultantly prefacing such comments with mitigating statements, such as: 'I had a dream last night' (pg.15). Recognising this, it may be that even when conversing with fellow CSDs, differing degrees of caution drive (certain) CSOs to be more deceptive, resultantly impacting their language. When analysing CSDs' vocabulary

[64] Liars were randomly assigned to either *high* or *low* motivation categories, for which 'previous research procedures [were] used to manipulate motivational levels…(see DePaulo et al., 1983; Forrest & Feldman, 2000)' (pg.11), along with Likert scales to gauge participants' motivation levels.

therefore, it is important for the present study and any in the future to remain mindful of such (potential) complications.

Section 6: Chapter reflections

Expositions

Together, the studies reviewed within this chapter provide invaluable insights into the general nature of electronic communications between CSDs and/or CSOs. Overall, in relation to communicative themes, said research indicates that individuals using child sex chatrooms of varying accessibility (i.e., public v. private) and/or inclusivity (i.e., male-oriented v. female-oriented) predominantly share messages regarding their daily lives and sexual interests (i.e., Cockbain et al., 2014; Holt et al., 2010; Lambert & O'Halloran, 2008; Laws & Marshall, 1990; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quayle, 2010). Of equal significance, select studies also noted several cognitive distortions expressed by both anonymous CSDs (i.e., Lambert & O'Halloran; Malesky & Ennis; O'Halloran & Quayle) and contact CSOs (i.e., Cockbain et al.), raising the question of whether such comments may relate to individuals' offending risks and/or histories. To this point, McManus et al.'s finding that non-contact CSOs discussed adult (sexual) relationships significantly more than contact CSOs supports the theory that communicative idiosyncrasies exist among CSDs which relate to their offending risks and/or tendencies. Likewise, these same studies' observations that CSDs would also mention known risk factors for contact offending (i.e., deviant sexual interests, dysfunctional schemas, problematic relationships, emotional issues, etc.) further suggests that research into whether such messages may help identify potentially and/or especially dangerous persons is warranted.

With this said, it is critical to iterate that despite their insights and strengths, the aforementioned studies also suffered from several limitations. To summarise, studies which worked with publicly available chatroom posts (i.e., Holt et al., 2010; Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; O'Halloran & Quayle, 2010) were unable to verify any details of the forums' users, including whether one CSD was operating multiple profiles. Relatedly, while studies which examined samples of convicted offenders (i.e., Cockbain et al., 2014; McManus et al., 2015) can have confidence that their subjects/participants' criminal histories were fairly accurate, there is always a chance that not all of the child sex abuse committed by an individual was documented and/or proven. With respects to these latter studies, so is the generalisability of their findings undermined by considerably small sample sizes. Lastly, as noted by Hughes et al., (2006) and Rashid et al., (2013), the nature of CSDs' chatrooms is constantly changing. Thus, beyond the reasons provided above, more research is needed to reaffirm and/or develop insights into CSDs' computer mediated intercommunications.

As pertains to linguistic analyses, textual analyses software is increasingly demonstrating that insights into people's thoughts, psychologies and personal live can be gleaned by examining the exact vocabulary within their writing and speech (Tausczik & Pennebaker, 2010). In regards to the present study, numerous linguistic idiosyncrasies have been found which may serve to identify and assess the severity and/or presence of child sex groomers within online communities (i.e., Chiu et al. 2018; Drouin et al., 2017; Parapar et al., 2012; Pendar, 2007; Siegfried et al., 2019). Be that as it may, with each of the aforesaid studies, their sample of transcripts are either from dubious sources (i.e., Perverted Justice) or only comprised of several chatlogs, provided by investigators. Promisingly, however, further psycholinguistic research has shown that peoples' vocabulary can reveal known risk factors for (contact) sex offending, such as depression (e.g.,

Bernard et al., 2016) and pyscholpathy (e.g., Hancock et al., 2013). Yet, even so, no previous research has applied such insights toward assessing CSDs and/or CSOs' intercommunications. Given this oversight, the need perform exploratory research of this nature is warranted.

Upcoming sections

Referring to the precedents set by studies reviewed within this chapter, it is now critical that their specific methodologies be more thoroughly considered. Indeed, despite reporting largely similar findings, no single research approach was used across all thematic or linguistic studies. Contradictory as this may seem, such an observation serves as a testament to the reliability of differing research approaches, when applied. properly To this point, even with inherent similarities, none of the differing approaches adopted by past CSD and/or CSO-focused studies are perfectly interchangeable. For example, while some analysts' methods allowed for the interpretation of cognitive distortions (i.e., Malesky & Ennis, 2004; Lambert & O'Halloran, 2008; O'Halloran & Quale, 2010), other's chosen methods declined to perform such assessments (i.e., McManus et al., 2015). In regards to what factors must be considered when selecting a methodology and/or determining a study's design, it is imperative to not only assess methods suited for a study's aims, but also what approaches correspond with the analysts' personal philosophies.

Over the course of the subsequent chapters, this thesis will explain the primary research approaches considered and adopted by the present study. To fully understand both *how* this study was conducted and *why* its chosen approach was adopted, therefore, it is important to first review all underlying philosophies considered while making said decisions. Thus, in Part II of this thesis, Chapter 4 will examine various schools of thought deemed especially relevant when

examining content such computer mediated communications. Subsequently, Chapter 5 shall clarify what data was obtained for the present study and how it was processed—along with all the variables which had to be considered and overcome in the process. From there, Parts III and IV of this study will proceed to review the qualitative and quantitative analyses and results of this research before drawing this thesis' final conclusions.

PART II
Research approach: Assessment and selection

4. Philosophies and methodologies of CSD-focused studies: Past and present

Key terms and abbreviations

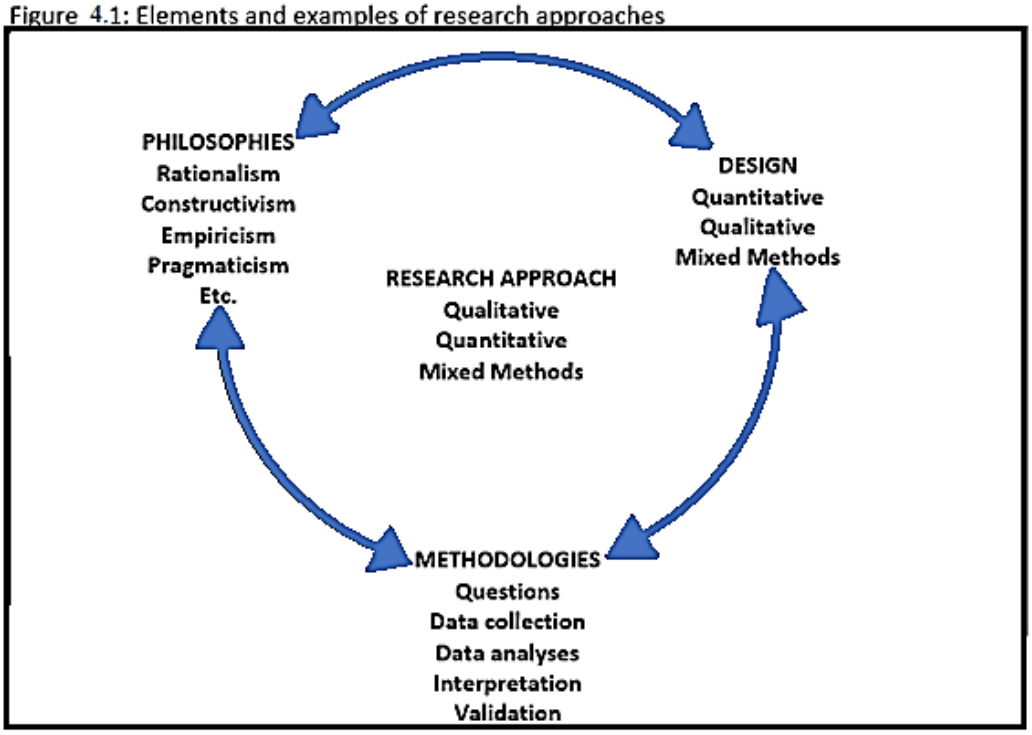
Content Analysis (CA)
Discourse Analysis (DA)
Grounded Theory (GT)
Thematic Analysis (TA)

Section 1: Elements and precedents of relevant research approaches

Introduction

The process of determining a study's research approach requires accounting for numerous factors, including analysts' philosophies and their study's methods and design (Panke, 2018). In turn, these variables include elemental components, which must likewise be considered both individually and together (see Figure 4.1, pg.102). By assessing these factors and assuring that alternative methods were appraised, analysts are able to better ensure that reliable and revealing results are attained (Panke). To review the approaches adopted and rejected for the present study, therefore, this chapter will assess various schools of thought and relevant, qualitative methods by building off past CSD-focused research. Afterwards, Chapter 5 will examine the dataset requested and obtained by the present study to review what quantitative analyses proved appropriate and what mixed method design was adopted achieve the researcher's aims.

Figure 4.1: Elements and examples of research approaches



For clarification, at their most basic, scientific areas of study recognise two overarching approaches to research, based on the tools, data and protocol used (see Hedges, 1987). Relying on measurable[65] and/or calculable evidence to explain phenomena, *quantitative analyses* entail studies which derive findings from mathematical and/or statistical calculation. In comparison, *qualitative analyses* involve approaches which require descriptions and interpretations from the researcher. Traditionally, due to restrictive standards of what constituted respectable research, the value and validity of the aforesaid approaches were not considered equal (Allwood, 2011)

By and large, preference has been shown for quantitative analyses, owing to the approach's reliance on calculable evidence (Smeyers, 2008). As pertains to qualitative analyses, any findings produced by such approaches are often considered of vital yet limited value. In part, this is owed to the relatively modest samples which qualitative studies more commonly analyse

[65] Referring to units when gauging size, weight, and/or amount (Field, 2018).

(Neuman, 2011). Even more significantly, another critique of qualitative analyses is the concern of researchers not only attempting to describe and/or explain phenomena but also interpreting meaning (Maxwell, 2003). Consequently, qualitative studies are often presumed to be subjective and unsuited to pair with statistical tests (Allwood, 2011). Over recent decades in particular, however, an increasing number of researchers from a widening range of fields have begun to demonstrate and advocate the merits of qualitative methodologies (Allwood). Within the social sciences especially, the division between quantitative and qualitative research are being progressively challenged—with distinctions between the approaches' methods and philosophies being merged and blurred (see Allwood).

As touched upon within the previous chapter, in their research into contact and non-contact child sex offenders, McManus et al. (2015) adopted both qualitative and quantitative analyses, thereby utilising a *mixed method* design.[66] Alternatively, among their examination of intercommunications between CSDs, related studies have favored employing qualitative analyses (see Table 4.1). To understand why and begin assessing the present study's research approach, it is useful to examine what specific philosophies and accompanying methods were used in previous CSD-focused studies.[67] Therefore, the following sections will discuss such matters.

Table 4.1: Research into the content of electronic communications between CSDs

Study	Methodology	Data source	Transcript size	Sample size
Linehan et al. (2001)	Content analysis	One public chatroom	Unspecified	Unspecified
Malesky & Ennis (2004)	Content analysis	One public chatroom	238 posts	Unspecified*
Lambert & O'Halloran (2008)	Deductive thematic analyses	One female-oriented public chatroom	Unspecified	Unspecified*

[66] For an extensive review of mixed method, see Chapter 5 (pg.151).
[67] Excluding Linehan et al. (2001), whose study remains unpublished (see O'Halloran & Quayle, 2010).

Holt et al. (2010)	Grounded theory	Five public chatrooms	705 threads	Unspecified*
O'Halloran & Quayle, (2010)	Content analyses and Cohen's kappa	One public chatroom	127 posts	23 CSD chatroom profiles**
Cockbain et al. (2014)	Thematic analyses Cohen's kappa	Interviews with dual CSOs	N/A	3 dual CSOs
McManus et al. (2015)	Content analyses, Mann-Whitney U tests and MANOVAs	Hampshire Constabulary	Ranged from 345-2,355 lines between CSOs (total length unspecified)	5 contact CSOs and 7 non-contact CSOs

*****Judging from the studies' wording, the transcripts analysed contained posts from numerous individuals. Yet, it is unknown exactly how many unique chatroom profiles contributed to the dialogue and/or how frequently.
******Although the study reports 23 CSD profiles, it cannot be assumed each belonged to a unique individual.

Precedent in methodologies

To begin this study's review of methodological precedents, it was deemed appropriate to first consider the relatively straightforward analyses adopted by Lambert and O'Halloran (2008) and Cockbain et al. (2014). As pertains to both studies, the researchers utilised a variation of *Thematic Analyses* (TA), which, in essence, aims to explore variations and consistencies within peoples' thoughts and/or experiences by identifying and/or interpreting patterns of meaning (i.e., themes) within non-numerical/qualitative data (Guest, MacQueen & Namey, 2011). Additionally, unlike similar methods, TA lacks any inherent philosophical and conceptual assumptions. As such, the method eschews strict adherence to specific approaches, procedures and/or theoretical frameworks (Guest et al.). Delving further, when seeking to identify and interpret communicative themes, TA (traditionally) compels analysts to not only familiarise themselves with the data, but also recognise how they, as an external party, are personally affected when engaging with such dialogue (Guest et al.). For these reasons, TA is considered most applicable for *exploratory research*, which entails using content-rich data (e.g., chatroom transcripts) to describe specific insights, rather than provide broad explanations (Boyatzis, 1998).

Promisingly, this adaptability and/or ambiguity allows for more flexibility on the part of researchers—from the beginning of a study to the reporting of one's finding. As a consequence, however, this same flexibility invites scrutiny over the validity of the research. Indeed, without a definitive procedure, any results of TA can be easy to criticise and difficult to defend and/or replicate (Guest et al.). Yet, such is not to imply that no basic procedure for TA is expected.

In general, the methodology of Thematic Analyses advocates for data to be analysed by:1st) reviewing communications to identify themes, 2nd) exploring how said themes interact and 3rd) combining related themes into broader categories (Nowell et al., 2017). To this point, traditionally, TA tends to favour *a priori*[68] methods, referring to when hypotheses are formulated before analyses and when knowledge is believed to be obtained without experience, through rational and/or logical thinking (Michael, 1998). This being said, the flexibility of TA also allows researchers to employ *a posteriori*[69] methods, which entails assessing phenomena free of preexisting hypotheses and contends that knowledge obtained through experience and/or testing (Michael). Respectively, these two approaches correspond with the use of *deductive* and *inductive analyses*, which in turn relate to researchers' philosophies and aims (see Table 4.2, pg.106). As pertains to Lambert and O'Halloran (2008) as well as Cockbain et al. (2014), regrettably, neither study clarifies their researchers' underlying philosophy.[70] Be that as it may, to assure their analyses were conducted properly, both studies were mindful to outline their methods.

[68]a priori: From the earlier
[69] a posteriori: From the later
[70] With respects to Williams et al. (2013), the researchers note their examination of child sex groomers' communications with Perverted Justice actors/decoys used inductive thematic analyses, owing to: 1) a lack of a preexisting framework for coding, 2) a recognition of tacit content in groomers' posts, and 3) using data not created for research purposes.

Table 4.2: Features of differing analytic approaches

Deductive analyses	Inductive analyses
• Analyst-driven • Themes around permissiveness • Provides relatively terse descriptions of data and greater details of analysis • Code for specific research question • Curious about how permissiveness plays across data • Confirmatory • *Top-down*: uses pre-existing knowledge to interpret stimuli and for perception	• Data-driven • Themes fundamentally linked to data • Code data without concern for preceding coding frames or predictions • Research queries can evolve • Researcher repeatedly reads data for any (relevant) themes • Exploratory • *Bottom-up*: start with no pre-conceived assumptions and allow stimulus to influence perception

*See Azungah (2018)

In relation to Lambert and O'Halloran (2008), the researchers confirm their process adopted a deductive approach. More specifically, to examine the cognitive distortions among (alleged) female CSDs, this entailed: 1) carefully reading data without coding, 2) rereading data to discern communicative themes, 3) refining all identified themes and 4) clustering all smaller themes into larger categories. By reading through their dataset before conducting any (formal) analyses, Lambert and O'Halloran were not only able to thoroughly discern thematic patterns but also better account for their own reactions when inferring meaning from CSDs' dialogue. Alternatively, in using TA to examine interviews of three convicted CSOs, Cockbain et al (2014) confirm their approach used inductive/bottom-up analyses (see Table 4.2) to address gaps in knowledge around CSO syndicates. More specifically, it was the analysts' intent to generate themes relating to situational processes and factors which affect CSO cultures (online and off), rather than fit the data to predetermined theories. As such, despite both using TA, Cockbain et al.'s approach is in contrast to deductive/top-down analyses performed by Lambert and O'Halloran. Thus, while Cockbain et al.'s analyses would have similarly involved repeatedly

reading data to identify and group thematic categories, their research did not code for specific research question.[71]

Ultimately, the use of Thematic Analyses by Lambert and O'Halloran (2008) and Cockbain et al., (2014) proved effective at identifying communicative themes among (alleged) female CSDs and confirmed male CSOs alike. As such, while neither of the aforementioned studies clarified their researchers' underlying philosophies, the use of TA presents a viable and versatile option for examining CSDs intercommunications. Yet, with regards to the present study, it is uncertain whether such a method would prove ideal. In theory, if employed similarly to either of the aforementioned studies, TA would not only assist with documenting the more apparent/obvious themes within such individuals' communications (e.g., sexual acts, fantasies, offences, etc.) but would allow for subtler themes within statements (e.g., cognitive distortions) to be interpreted as well. Moreover, while none of the present study's findings would be fit for investigative use (as anticipated), the analyses may nonetheless eventually help develop investigative tools and/or guidelines by adding to the current body of CSD-focused research. To that point, however, given that an aim of this study is to consider potential links between CSDs' computer mediated communications and their offending risks and/or histories, it may be that a method other than that used by Lambert and O'Halloran and Cockbain et al. is better suited. Beyond this possibility, moreover, owing to the fact that TA lacks any inherent philosophical and conceptual assumptions, it remains critical to consider such influences within the current research. For these reasons, further review of the remaining CSD-focused studies is warranted.

[71]Additionally, it should be noted that Cockbain et al., (2014) also took the additional steps of checking interrater reliability on identified thematic categories by using the statistical test, Cohen's kappa (see Neuendorf, 2002).

Shifting focus to Holt et al. (2010), it was found that the researchers used a *Grounded Theory* (GT) approach to examine posts from five CSD chatrooms. Superficially, this method applies a process similar to TA, requiring analysts to scrutinise communications for themes before categorising said findings into broader, interrelated categories (Charmaz, 2003). More specifically, GT favours an a posteriori and inductive approach, to better generate and/or develop *paradigms* (i.e., architypes, examples, models, etc.) which help explain phenomena. Put differently, GT not only seeks to develop upon observations which originate in the data and past research, but also foster new theories and/or themes (Corbin & Strauss, 1990). In turn, this often means the method often focuses on identifying *normative orders* within a population, referring to the general rules, values, and/or practices which offer (societal) guidance and justification for actions and/or ideas (Herbert, 1998). Correspondingly, within Holt et al., the researchers confirm their study's aim was to 'to critically explore the normative orders of p[a]edophile subculture online,' (pg.8). In this respect, Grounded Theory distinguishes itself from general Thematic Analyses. As expounded upon within this chapter's examination of philosophical views (see chapter's Section 2), therefore, such factors must be considered when deciding whether GT should be adopted by the present study. Before such considerations, however, it is practical to review when GT is best suited and/or useful.

Based on the above-described fundamentals of GT, the method is one considered ideal for studies involving absent and/or abstract theories and which pertain to under-researched topics (Corbin & Strauss, 1990). In this regard, the method was well-suited for Holt et al. (2010), whose analyses remain distinct by identifying and comparing CSDs' communicative themes across multiple chatrooms. What is more, because the method remains adaptable and has an underlying, *data-driven* philosophy which both interprets communications whilst excluding

analysts' personal sentiments, GT affords numerous strengths, including detail-rich findings with meticulously developed justifications (see Table 4.3, pg.112). Inevitably, however, this qualitative method can suffer multiple limitations, including: 1) data overload, 2) a focus on selective issues or first impressions and 3) limited generalisability (Bryant & Charmaz, 2007). In addition, while GT discourages researchers from making overly abstract and/or speculative interpretations, its reliance on analysts' personal insights can undermine GT's credibility (Neuman, 2011) and makes using auxiliary quantitative tests difficult and/or inappropriate. Moreover, given that the present study can now refer to a broader body of knowledge than Holt et al. to formulate its hypotheses, using GT is arguably not as justifiable.

Upon reflection of the discussion above, an argument can be made in favour of utilising either TA or GT for the present study. Suitable although the methods may be, however, since the abovementioned studies were performed, additional research into CSD and/or CSOs' electronic communications have employed alternative approaches (i.e., Cockbain et al., 2014; McManus et al., 2015; O'Halloran & Quayle, 2010). In order to avoid prematurely adopting an (unideal) method and/or philosophy for the present study, therefore, is imperative to review the approaches of the remaining above-listed focused CSD research.

As pertains to the remaining (known and published) CSD-based research, in each of their respective studies, Malesky and Ennis (2004), O'Halloran and Quayle (2010) and McManus et al. (2015) opted to perform *Content Analyses* (CA). Put simply, much like the aforementioned techniques, it is the intent of CA to offer insight into populations' thoughts and actions by reviewing samples of their communications (Krippendorff, 2018). For this process, researchers are again encouraged to identify, define and subsequently group any detected themes, doing so with combinations a priori or a posteriori methods and inductive or deductive approaches. In this

respect, therefore, CA affords a generous amount of versatility and serves for both exploratory and confirmatory research (Krippendorff). Along with this flexibility, however, CA is considered to have relatively restrictive and/or cautious level of interpretation, in comparison to approaches such as TA and/or GT. As shall be clarified within this chapter's review of methods' underlying philosophies (see chapter's Section 2), in essence, CA works on the basis that interpretations of data should be kept to a minimum (Graneheim, Lindgren & Lundman 2017). In so doing, it is argued researchers can better avoid biases and assure findings are as generalisable as feasible (Graneheim). Yet, as reliable and rigorous as such an approach may prove, so is it argued that limiting one's evaluations might lead researchers to misinterpret by overlooking or undervaluing select information (Graneheim & Lundman, 2004; Krippendorff, 2018).[72]

As pertains to the CSD-focused studies which employed Content Analyses, each piece of research was able to provide numerous insights into their samples' communicative themes. In as much, the findings demonstrate the viability of adopting such a methodology. However, upon reviewing whether these studies utilised a priori or a posteriori methods, as well as inductive or deductive approaches, it was found that not all of the reports specified this. Nevertheless, inferences were able to be made. To begin, within Malesky and Ennis (2004), the research appear to have applied a combination of approaches. When identifying previously unconsidered/ under-considered motives and themes relating to CSDs' communications, the analysts perform more exploratory research, consequently employing (limited) inductive analyses and/or an a priori approach. By contrast, when examining whether CSDs exhibited cognitive distortions, the researchers utilised deductive and a posteriori analyses to identify cognitive distortions previously described in relation to sex offenders by Murphy (1990). Likewise, within O'Halloran

[72] For more specifics, refer to Table 4.3 (pgs.108-109)

and Quayle's (2010) analyses of posts from another CSD chatroom, the researchers attempt to identify cognitive distortions detailed by Durkin and Bryant (1999) and thereby demonstrate the use of deductive and a posteriori analyses.

Lastly, in regards to McManus et al. (2015), the researchers definitively state that the transcripts they were provided from the police were to be: 'coded via an inductive category development content analysis approach…to extract themes that could be tested' (pg.170). Furthermore, in adopting such a method, the study recognises that CA: 'is a descriptive tool..[which] allows research[res] to identify themes, but…cannot infer why these themes are present,' (pg.177). In comparison to Malesky and Ennis (2004) and O'Halloran and Quayle (2010), therefore, McManus et al.'s analyses are somewhat distinct. Rather than refer to past research into sex offenders' cognitive distortions to search from similar thoughts expressed by CSDs, McManus et al. kept their interpretations of tacit information (i.e., individuals' psychological processes) to a minimum. Instead, the methodology they chose was one which produced findings more conducive to statistical testing. To elaborate, because it is regularly the intention of CA to provide generalisable findings and/or perform confirmatory research, is not uncommon for the method to supplement qualitative analyses with statistical tests. Despite their study's novelty and relatively small sample size, McManus et al. were nonetheless able to use CA to uniquely examine whether communicative themes related to CSOs' offending histories. Given all the themes which may have been left undocumented owing to the method's limited interpretations of communications, however, the benefits of combining qualitative and quantiative analyses through the use of CA could also come at a cost.

Ultimately, with respects to Content Analyses' fitness for the present study, the method appears to offer multiple amenities. Versatile yet methodical, CA would not only permit but

promote a detailed and discerning analysis, whilst also providing guidance to help avoid making overly-interpretive insights. Additionally, because the method is suitable for analysing large and small samples alike, CA should remain an appropriate option, regardless of the present study's sample size (see Chapter 5). Yet, with this said, depending on the use of inductive or deductive analyses (or a combination of both), the specific manner in which CA is employed also determines how much interpretation and/or explanation this study would be able and willing to provide. Given that the current research not only aims to identify themes among CSDs' intercommunications, but also expound upon potential links to individuals' offending tendencies and bolster any insights with quantitative, linguistic analyses, an approach is needed which strikes a balance between making subjective inferences and minimising underlying themes within CSDs' messages. Thus, in order to make an informed decision regarding what specific qualitative method to adopt, it is imperative to review all especially relevant underlying schools of thought.

Table 4.3: Methods of pervious CSD-focused research

Method	Definition	Suitability	Strengths	Limitations
Thematic Analysis	A general label applied to analyses which seek to examine, identify, and interpret patterns of meaning (i.e., themes) within qualitative data, without adherence to specific approaches or theoretical frameworks (unlike Grounded Theory, Content Analyses, etc.)	1) Ideal when the analysts aims and interests are broad and/or variable 2) Best used with exploratory research 3) Able to examine textual and behavioural records 4) Allows for inductive and deductive analyses 5) Permits a priori and a posteriori analyses	1) Preserves richness of data 2) Conducive to unforeseen insights 3) Flexible analytic approach	1) Ambiguous philosophical foundations 2) No precise analytic process 3) Chance of subjective conclusions 4) Particularly limited generalisability
Grounded Theory	A systematic approach mainly used for examining	1) Ideal when researching phenomena with	1) Flexible inductive strategies	1) Data overload

	communications, which involves constructing theories using inductive reasoning and which is continued by researchers until nothing new is being learned.	ambiguous, abstracted and/or absent theories 2) Appropriate for examining repetitive phenomena (i.e., multiple conversations)	2)Theories are scrutinised throughout the entire process 3) Emphasises the agencies and responsibilities of the analysts 4) Preserves richness of data	2) Influence of first impressions 3) Selectivity of issues 4) Limited generalisability 5) Chance of subjective conclusions
Content Analysis	A process of examining communicative trends and/or themes using a replicable, non-invasive approach which involves systematic reading and/or observation with minimal interpretation of tacit information	1) Appropriate for examining textual and behavioural records 2) Allows for inductive and deductive analyses 3) Permits a priori and a posteriori analyses 4) Ideal for quantifying output from qualitative analyses	1) Systematic coding and counting 2) Produces (relatively) generalisable conclusions 3) Detailed definitions of coding units for future research 4) Pairs with statistical tests 5) Not overly time consuming 6) Virtually unobtrusive	1) Unable to establish causality by describing data 2) Limits/avoids inferring deeper meanings or explanations from patterns in the data 3) No definitive guidelines for analysis

Section 2: Philosophical underpinnings

Introduction

Within the social sciences (especially), differences in opinion regarding not only what determines and justifies belief, but also what standards of evidence best establish truths about the world and/or experiences, have led to innumerous, interrelated schools of thought proposing how research ought to be conducted and/or on what information it should be focused (Novikov & Novikov, 2013). *Epistemology*, therefore, is the philosophy concerned with conceptulising and/or

defining the nature and scope of knowledge by appraising what information can be considered accurate and establishing how descriptions and explanations of phenomenon can be accepted as truthful or factual (Pritchard, 2017). Put differently, epistemology is largely focused on three elemental questions: 1) what is knowledge, 2) is knowledge something able to be acquired and 3) how might knowledge be attained (Ward & Maruna, 2007). Over time, such queries have led to the emergence of two primary stances, contending that knowledge is either an objective truth capable of being inferred (i.e., *rationalism*) or an objective truth which must be proven (i.e., *empiricism*) (Pritchard).[73] As such, because discussing each philosophy encompassed within said views would be infeasible for this thesis, Sections 2 and 3 of the current chapter will examine epistemology's primary schools of thought and consider how they relate to research into CSDs. Likewise, attention will be given to additional philosophies and corresponding methodologies deemed to be especially pertinent to the current study (see Table 4.4, pg.130). From such considerations, this chapter can then conclude which views and/or methods best align with the researcher's principles and aims.

Rationalism

Beginning with one of epistemology's primary schools of thought, *rationalism* contends that knowledge is objective and able to be gained and/or possessed independently from sensory experiences, often through reasoning (Huenemann, 2008). This means, by way of instinct, intuition and/or deduction, the philosophy asserts that definitive explanations of phenomena can be logically established (Seifert, 2009). When applied to research, therefore, the rationalist contends that because data does not inherently and independently organise itself to explain

[73] These perspectives, in turn, incite debate as to what constitutes *belief*. Yet, given the focus of this research, such discussions remain beyond the scope of what is reviewed herein (see Pritchard, 2017).

reality, the information must be logically pieced together (BonJour & Laurence, 1998). In other words, facts without theories reveal little to nothing and divulge no knowledge (Packard, 2017).

As pertains to rationalism's relevance herein, the philosophy's focus on drawing deductive conclusions does present several merits, such as: 1) requiring logical explanations to validate assertions and 2) providing theories to establish knowledge. However, beyond this, the rationalist intent of discerning objective reality does not correspond with this study's aims of examining CSDs' communicative themes, vocabulary and potential links to individuals' offending risks and/or histories. To this point, among each recently reviewed CSD-focused studies, none demonstrated a rationalist perspective. That said, it should be noted that Lambert and O'Halloran (2008) did employ deductive Thematic Analyses, in order to identify cognitive distortions among (allegedly) female CSDs. Yet, in and of itself, this does not indicate a (definitive) rationalist approach. Delving further, the analyses of the aforementioned study reveal philosophical perspectives more focused on individuals' personal views and experiences.

Interpretivism

Common within social science research, the philosophy of *interpretivism* focuses on understanding the subjective perspectives and/or conclusions of individuals and groups, formed when making sense of experiences and/or the broader world (Mölder, 2010). In essence, therefore, this view contends that it is only through examining social constructs and accounting for individuals' lines of thought that researchers can comprehend others' lived realities and how such perceptions manifest (Mölder). When applied to writing and/or speech, interpretivism entails making inferences regarding the messengers' cognitive processes, as well as the influence and significance of whatever subject the individuals and/or groups are commenting on (Mölder).

In relation to CSD-focused studies, such views are more in-line with research seeking to understand such population's world views. As an example, referring back to Lambert and O'Halloran (2008), the researchers were interested in examining and explaining themes within (female) CSDs' cognitive distortions. Thus, while interpretivism is often associated with inductive analyses, the aforementioned study's interest in CSDs' world views indicates that it employed some form of interpretivist approach. Speaking in relation to the present study, although it is recognised that differences in cognitive distortions may correspond to CSDs' communicative themes, vocabulary and offending tendencies, this broad approach was deemed overly-interpretive and/or inconsistent with this study's aims and perspectives. For these reasons, alternative philosophies (and methods) required consideration.

Constructivism

Likewise contending that reality does not exist in one genuine/objective state, *constructivism*[74] instead argues that reality results from subjective societal and/or cultural creations, prone to debate and change (Knoblauch & Pfadenhauer, 2018). By extension, the philosophical approach claims several additional facets, including that: 1) it is possible to interpret human behaviour beyond instrumental measurements, 2) meaning is created by engaging with the world and 3) researchers' insights into phenomena and/or queries should derive from interaction with their subjects (Knoblauch & Pfadenhauer). Owing to these positions, when conducting constructivist-based research, it is not the analysts' aim to uncover universal and/or generalisable explanations, nor to evaluate whether constructs are true or false.

[74] For clarification, it should be noted that although *constructivism* was derived from the philosophy of *constructionism*, the former focuses more on cognitive skills whereas the later focuses more on psychomotor skills.

Instead, the purpose of said research is to consider the nature of societal paradigms and personal experiences, as well as their shaping of subjective realities (Knoblauch & Pfadenhauer). As a result, the philosophy is common among numerous methods of qualitative analyses, including several used by CSD-focused studies.

Referring back to Cockbain et al.'s (2014) interviews with several CSOs, the researchers expressly state that, unlike with Lambert and O'Halloran (2008), their Thematic Analyses involved an inductive/bottom-up approach to address gaps in knowledge around CSO syndicates.[75] Beyond this, Cockbain et al. also stress that a fundamental consideration during their analyses was that: 'extensive social psychological research emphasises the importance of groups in shaping individuals' thoughts and actions' (pg. 156). As such, in addition to Cockbain et al.'s use of interviews, so does their use of inductive analyses and emphasis on societal/group influence on individuals' behaviours indicate underlying constructivist views. To that point, in correspondence with such views, the researchers appear to employ a *symbolic interactionist* framework to their analyses. In brief, symbolic interactionism is an outline for qualitative research, contending that in order to understand subjective creations of reality, researchers must consider how individuals engage with the outside world—as it is from such interactions and/or experiences by which meaning is both derived and ascribed (Shalin, 1986). Thus, by interviewing participants so that they could directly explain such interactions and any influence on the dynamics of CSO syndicates, Cockbain et al. appear to have employed a symbolic interactionist framework (in line with constructivist views). Importantly, moreover, the researchers used such an approach while enquiring about CSO cultures both online and offline. In relation to the present study, therefore, it important to appreciate that although Cockbain et

[75] Likewise, similar rationale for using Thematic Analyses is provided by Williams et al. (2013) for examining communications between child sex groomers and Perverted Justice decoys.

al.'s research is less relevant than other CSD-focused studies discussed herein, their underlying school of thought is still worth considering.

To that point, in their use of Grounded Theory to examine CSDs' intercommunications, Holt et al. (2010) also appears to demonstrate a constructivist philosophy. Although it is never specified within their study, one view which is particularly common among methodologies prone to theory generation and/or an a posteriori approach is constructivism (Hall, Griffiths & McKenna, 2013). Beyond this, by stating that their study's methodology was selected to 'critically explore the normative orders[76] of p[a]edophile subculture online,' Holt et al. (pg.8) indicates that their underlying philosophy recognises reality as being subjective creations which are prone to debate and change. Thus, the researchers express values in-line with constructivism. In addition, as within Cockbain et al., (2014), Holt et al. likewise forgo the use of instrumental measurements to examine the (subjective) motives, meaning or behaviours behind CSDs' posts. Admittedly, however, contrary to the assessments above, the lack of interaction between Holt et al. and their sample does divert from traditionally constructivist approaches.

Having now identified several indicators of constructivist views and/or symbolic interactionist frameworks within both Cockbain et al. (2014) and Holt et al. (2010), such approaches warrant consideration in relation to the potential approach of the current research. Firstly, it is recognised that both constructivist views and a symbolic interactionist framework are conducive to exploratory research. Indeed, by evaluating subjective realities, external influences and/or normative orders, it may be that such an approach would not only help assess the nature and themes for dialogue between CSDs but also generate theories to (potential) links to persons' offending tendencies and/or severity. However, given that constructivism and

[76]*Normative orders*: the general rules, values, and/or practices offering (societal) guidelines and justification for actions and/or ideas (Herbert, 1998).

symbolic interactionism is often critiqued for producing overly subjective results (see Table 4.4, pg.130), such approaches might limit the generalisability and (investigative) utility of the study's findings. Beyond this, another reason why constructivism (and/or symbolic interactionism) might not be best suited for the present study is its emphasis on conducting interviews. While it is not required that researchers adopting such an approach directly interact with their sample, it is encouraged to better consider all subjective realities and/or any influencing stimuli and personal experiences (Knoblauch & Pfadenhauer, 2018). Because it is not feasible for the current study to discuss CSDs' computer mediated communications with the messengers themselves, therefore, adopting an approach which seeks to understand personal realities might not be ideal. However, it must be iterated that even without interviews, Holt et al.'s results suggest it is possible for constructivist views to assist with analysing conversations between CSDs. Before confirming this study's underlying philosophy and/or corresponding methodology, therefore, it is essential to continue reviewing the approaches of previous CSD-focused research.

Empiricism

Generally regarded as the converse of rationalism, in essence, empiricism is the belief that obtaining knowledge requires quantifiable measurements derived from experiences and/or systematic observations (Peterson, 2018; Yates, 2003). To this point, closely intertwined with empiricism, is the philosophy of *positivism*, which similarly contends that theories can only be confirmed and/or knowledge discovered by employing the *scientific method* (Hollis, 1994; Yates). Strictly speaking, then, empirical and/or positivistic research requires *closed systems* for data collection. This mean that, in order to confirm a hypothesis, all factors which may confound

a study's results must be eliminated (Yates). Due to the complexity of human nature, however, it is all but impossible to achieve perfect closed systems within social science research. Instead, empirical studies within the humanities regularly create what is termed *controlled contexts*, which, in essence, requires designing studies which best eliminate as many potentially confounding variables as possible during participant selection, sample testing and all analyses (Yates). Even without the stricter requirements of a closed system, therefore, creating a controlled context for social science research is challenging.

When used to examine writing and/or speech, the creation of controlled contexts typically includes several components, these primarily being: 1) minimising external stimuli and/or interactions, 2) accounting for preceding confounding variables and 3) limiting the extent of researchers' assessments (Graneheim et al., 2017). To expound upon the latter precaution, within writing and speech, it is found that multiple layers of information exist, capable of being interpreted individually or mutually. Among these layers, *manifest content* refers to the denotative and/or literal content within a statement (e.g., individuals' exact vocabulary[77]) while *latent content* relates to the (intentional) connotative, tacit, and/or underlying meaning(s) of a statements (Graneheim & Lundman, 2004; Krippendorff, 2018). Thus, when creating controlled contexts by limiting interpretations of individuals' messages and/or language, this would mean focusing examinations primarily and/or exclusively on manifest content (Graneheim et al. 2017).

Building off of this point, when Content Analyses (CA) was initially developed (i.e., Sapir, 1944; Whorf, 1956), the method was empirically-driven (Reger & Pfarrer, 2007; Webber, 1990). This means the method focused on examining manifest content in order to draw more objective and/or scientific conclusions. As such, earlier studies which used CA would

[77] As interpreted in association with the words' official definitions.

traditionally count the frequency of (select) words and/or themes to determine their significance, often by performing accompanying statistical analyses (Graneheim et al., 2017). In this sense, therefore, early CA studies were more akin to the recently discussed linguistic analyses of communications between child sex groomers and (decoy) children (i.e., Chiu et al. 2018; Drouin et al., 2017; Parapar et al., 2012; Pendar, 2007; Siegfried et al., 2019). Indeed, although none of the aforementioned studies could account for all confounding variables, the use of data which recognised details regarding the offenders, (presumed) victims, and context of the transcripts demonstrates attempts at creating controlled contexts and evidences underlying empirical and/or pragmatic philosophies.

With regards to how CA is practiced contemporarily, this combination of qualitative and quantitative analyses (i.e., mixed methods[78]) is still often employed. Inasmuch, the method of CA inherently relates to this study's aims of examining CSDs' exact vocabulary (see Chapters 5 and 7). Over time, however, a shift in CA studies has led researchers to incrementally accept greater recognition of latent content (Graneheim et al.). Likewise, despite favoring the (potential) benefits of creating controlled contexts, so has CA become more accepting of *secondary sources,*[79] referring to data not originally documented and/or obtained by and/or for researchers (Graneheim). In relation to studies into CSDs' communicative themes, this is especially relevant.

As has recently discussed, within Malesky and Ennis (2004), O'Halloran and Quayle (2010) and McManus et al. (2015), the studies use Content Analyses to examine themes within the chatroom communications of CSDs and/or CSOs. With respects to the underlying philosophies, in each study, such details were left unspecified. Initially, based on the above-described relationship between CA research and empirical and/or positivistic views, it would be

[78] For further information, see Chapter 5 (pgs.151).
[79] See Chapter 9 (pg.306) for further discussion of *primary* and *secondary sources.*

characteristic for each of the aforementioned studies to adopt such philosophies. Upon review, however, this does not necessarily prove true. Most evidently, with respects to Malesky and Ennis, it was found that their methodology did demonstrate several empirical elements, including calculating the prevalence of communicative themes and employing a quantitative tool (i.e., a checklist) to identify examples of cognitive distortions. However, with respect to the latter feature, the researchers' interest in cognitive distortions also suggests that more consideration to communications' latent content was given than empirical and/or positivistic views would deem reasonable. In recognition of this fact, Malesky and Ennis sate that: 'cognitive distortions among sex offenders have proven difficult to investigate empirically…' (p 93). Thus, to adopt a strict empirical philosophy for their study seems unlikely.

Similarly, with regards to O'Halloran and Quayle (2010), despite the researchers' use of CA, the study does not appear to have been founded on a (strictly) empirical philosophy. To clarify, although quantifiable analyses (i.e., Cohen's Kappa) were performed to help determine that researchers' were reaching similar conclusions in their observations (i.e., *interrater-reliability*), this is not equivalent to using statistical testing to establish proof of a study's findings—as empiricism and/or positivism often entail. Indeed, within their inductive Thematic Analyses, Cockbain et al., (2014) also used statistical tests to confirm interrater-reliability. In addition to this, O'Halloran and Quayle's aim of analysing cognitive distortions among CSDs indicates more consideration of messages latent content than would be expected in strictly empirical and/or positivistic research. Lastly, with regards to using controlled contexts, O'Halloran and Quayle acknowledge that accounting for external/confounding variables was not possible, due to the fact their dataset came from anonymous profiles on a public chatroom. When

it comes to demonstrating what an empirical approach would entail for examining the communicative themes of CSDs, only one study is arguably close.

Throughout their report, it is found that McManus et al. (2015) make multiple comments alluding to their study's underlying philosophy. Firstly, it is noted that the researchers preface their analyses by stating their data had 'not been generated and collected for the purposes of this research…thus, not allowing the opportunity for the appropriate control to be deployed' (pg. 177). By recognising limitations of using secondary data, the researcher expresses empirical and/or positivist views, acknowledging the potential influence of confounding, external variables and indicating that more control over their sample would be desirable. To that point, as further reviewed in Chapter 5, some attempts were made by the researchers to account for external influences by specifying that each CSO comprising their sample had communicated with one common/shared recipient. Beyond this, McManus et al. also explicitly state that CA is a descriptive tool which can only be used to identify themes and not to infer why themes may be present. As such, the researchers indicate that consideration of statements' latent and/or contextual significance was limited.[80] Lastly, to determine if significant differences existed between contact and non-contact CSOs, McManus et al. counted the number of times any given theme was identified within a transcript and then statistically compared scores between contact and non-contact offenders. From this use of quantitative analyses, therefore, the researchers further demonstrate empirical and/or positivistic views.

With all this considered, it is now possible to determine whether epistemological and/or positivistic schools of thought are suited for the current research. First and foremost, because this

[80] As an indication of what latent content McManus et al. (2015) did acknowledge, the researchers quote one CSO as having written: 'what is the youngest you've ever had or touched?' (p.174). Obvious as the message's meaning might seem, only by inferring its latent content—which suggests 'youngest' to mean a child and 'touched' to mean abused—can the post's accurate meaning be interpreted.

study aims to examine CSDs' communicative themes, specific vocabulary and potential links to offending tendencies/severities the approach pf McManus et al.'s (2015) provides the starkest precedent. If possible to control for confounding variables and/or account for factors such as CSDs' offending behaviour, therefore, then the adoption of epistemological and/or positivistic approaches would provide numerous benefits. However, to that point, it is must also be iterated that when using secondary sources (e.g., CSOs' chatlogs) controlling for confounding variables and/or producing controlled contexts is particularly difficult. In addition to this, it is important to acknowledge that while minimising this study's interpretations of latent content within subjects' messages could help to avoid overly-subjective inferences, this approach might also ignore potentially crucial observations (i.e., the use of cognitive distortions). Thus, while it may be that adopting an epistemological and/or positivistic view would provide key benefits for the present study, so the might it undermine the researcher's efforts. Ultimately, therefore, with no ideal method or philosophy having been determined from this section's review of past CSD-focused studies, it is worth reviewing additional approaches not yet considered.

Section 3: Additional and alternative methods and philosophies for CSD studies

Introduction

Based on the approaches of previous CSD-focused research, ample reasons can be found as to why interpretivism, constructivism, empiricism and/or ancillary schools of thought each have their merits and detriments. Yet, with none of the methods or philosophies considered thus far perfectly aligning with the aims and perspective of the current study, it is imperative that other approaches be considered. Taking what insights have been gleaned so far, therefore, it is

possible to identify further methods and philosophies which deserve recognition within this thesis and/or CSD-focused research. As before, however, given the scope of the current research, only methods and philosophies deemed especially significant shall be reviewed herein.

Structuralism

Considered an especially significant method within the social sciences, *structuralism* is a mode of research which contends that insight into a phenomenon is gained by critiquing its dynamic interrelationship with (external) influencing variables and/or factors (Neuman, 2011). Crucially, therefore, when conducting structuralist research, it is the connections between the interacting components of a phenomena which are of utmost importance, not a specific phenomenon itself. To this point, a structuralist approach emphasises that reality and meaning are influenced by external factors. Thus, when employing a structuralist method, researchers are impelled to make critical inferences about the superficial and underlying significance and nature of phenomena and their elemental components (Neuman).

In regards to analysing writing or speech, structuralism reasons that all statements are personal expressions which create and demonstrate connections between the messenger(s) and the wider world (Sturrock, 2003).[81] In order to thoroughly examine a statement, therefore, the method requires researchers to make educated, in-depth inferences about a statement's context, latent content and/or other influences (Sturrock). Likewise, when analysing writing or speech, the structuralist approach expects researchers to remain mindful of the interrelationship between whoever made a statement and their intended and unintended audiences (Hawkes, 2003).

[81] With minor differences in views held by *post-structuralists* (see Howarth, 2013).

When considered in relation to CSD-focused research, similarities can be identified between structuralism and methodologies employed by select studies which scrutinised the context and/or latent content of CSD/CSOs' personal statements (i.e., Cockbain et al., 2014; Holt et al., 2014; Lambert & O'Halloran, 2008). That being said, because none of the above-listed studies chose to adopt structuralism, it cannot be known how well the method might perform within similar research. In theory, however, to utilise a method which promotes considering the connections between a phenomenon (i.e., CSDs' electronic communications) and all influencing variables and underlying meaning (i.e., potential risk factors and indicators) may not only help to identify otherwise overlooked themes but also observe links to CSDs' offending histories and/or tendencies. Yet, be that as it may, to attempt to consider all the internal and external variables which may have influenced statements made years ago by individuals whose personal details remain (largely) unknown may easily lead to overly interpretive assertions. Thus, while the merits of structuralism are recognised, to adopt the method for the current study would be improper. Instead, a better suited method would be one reminiscent of Content Analysis, but which would also allow for greater consideration of communications' context and subtext.

Discourse analyses

Favoured among researchers examining communications and/or exchanges between individuals and/or groups, at its most basic, *Discourse Analysis* entails inductively examining patterns of meaning (i.e., themes, tones and/or language) within text or speech (Hyland, Paltridge & Wong, 2021). More specifically, the method focuses on how messages are directly and indirectly conveyed. As such, statements are recognised as literal and figurative pieces of dialogue, containing intended and unintended meaning which audiences further influence (Hook,

2007; Potter & Wetherell, 1987). To perform DA, therefore, researchers are generally expected to: 1) examine statements' intent and effects, 2) code all pertinent passages and 3) critique statements' construction and functions.[82] During this process, moreover, analysts are expected to reflect upon their relationship with the data, in order to both identify and explain as many patterns of meaning as possible whilst remaining self-aware (Potter & Wetherell). Because of this, multiple variations of DA have developed in relation to researchers' data and focus.

Given the breadth and depth of variations within Discourse Analysis, to review each herein would be infeasible. However, as an overview, it is important to note that among the method's more salient variations are: 1) e*mpirical/conversational DA,* which focuses on *microanalysing*[83] the linguistics, grammar, semantics and overall meanings of texts; 2) *critical DA* which uses microanalysis and macroanalysis to examine how language constructs social practices; and, 3) *formal linguistic DA,* which macroanalyses how discourse constructs what is possible to think and say (Hodges, Kuper & Reeves, 2008). In relation to DA's general strengths and weakness, it is recognised that methods which encourage researchers to adapt their thinking and analyses in accordance with their data can allow for more penetrating and/or precise insights to produce rich and reflective results (Wang & Munday, 2020). Alternatively, so is it argued that in spite of researchers' mindfulness to remain self-aware during analyses, the malleability and inductive nature of DA might fail to avoid over-interpretive assertions (Wang & Munday).

With respects to DA's relevance herein, fundamentally speaking, the method bears some resemblance to the analytic procedures of studies recently reviewed (see Table 4.3, pg.112). To

[82] For specifics on the basic categories of messages' structures and functions, see Sakel & Everett (2012).
[83] *Microanlysis*: the study of psychosocial phenomena, regarding individual and/or esoteric actions, ideas, (states of) existence, etc.
Macroanlysis: the study of psychosocial phenomena, regarding pervasive and/or cultural actions, ideas, (states of) existence, etc. (see Neuman, 2011).

clarify, the general process of DA instructs researchers to: 1) carefully read data to identify patterns of meaning, 2) define all thematic categories and 3) cluster said categories as deemed fit (Potter & Wetherell, 1987). Importantly, however, by recognising statements as literal and/or connotative pieces of dialogue, the method further involves analysing writing or speech as an interrelated series of comments with unique and overlapping meaning. Thus, when developing thematic categories and examining persons' vocabulary, DA requires statements to be examined individually and as a dynamic collective. Given that this study's intent is to analyse the themes and language with CSDs' intercommunications, therefore, it is reasonable to conclude that DA may help facilitate such examinations Yet, because the present study wishes to limit its inferences of latent content, the aforesaid method (by itself) might not prove ideal. For this reason, with benefits and detriments found in each research approach reviewed thus far, the researcher (of the present study) enquired into the validity and merits of combining qualitative methodologies. In so doing, the final philosophy to be reviewed herein was considered.

Pragmatism

Until now, this chapter's review of research philosophies has largely focused on views commonly/traditionally corresponding with the chosen methods of past CSD-focused studies. Consequently, the option of employing multiple qualitative and quantitative methods has not been directly discussed. Within the social sciences, however, the practice of combining several methods of analysis has become increasingly favored among researchers and recognised within a school of thought. In brief, *pragmatism* is unlike other philosophies recently reviewed, in that it is pluralistic in nature (Okrent, 2019). This means, rather that contend one philosophy is ideal for understanding any given phenomena, pragmatism argues that the epistemological perspectives

and research methods of a study should be whichever combination affords the most practical means of producing reliable findings (Okrent). By extension, the view also maintains that a study's research approach should be based on solving problems and/or explaining phenomena (Hannes & Lockwood, 2011). Thus, instead of postulating on the nature of knowledge, pragmatists are concerned with its utility (Okrent).

Focusing specifically on pragmatism's relevance herein, it appears the philosophy is especially well suited. Indeed, upon reconsidering past CSD-focused studies, it is reasonable to surmise that while McManus et al., (2015) undoubtedly exhibits empirical and/or positivistic views, the researchers may have designed their study from a pragmatic perspective. To clarify, by combining detailed descriptions from Content Analyses with statistical tests to compare contact and non-contact CSOs' chatroom transcripts, the researchers attempt to yield the most practically useful information possible for academics and investigators. In as much, McManus et al., (2015) provide an example of a *mixed methods* design, which involves combining qualitative and quantitative analyses to offer descriptive insights and mathematically test (select) findings' significance and/or implications (Johnson, Onwuegbuzie & Turner, 2007).

Beyond this, crucially, the philosophy of pragmatism would similarly support combining multiple qualitative analyses and/or various statistical tests. To this point, as previously discussed, past research into communications between child sex groomers and (decoy) children have used qualitative research approaches to identify communicative themes (e.g., Black et al., 2015; Williams et al., 2013) and quantitative research approaches to examine CSOs' specific vocabulary (i.e., Chiu et al. 2018; Drouin et al., 2017; Parapar et al., 2012; Pendar, 2007; Siegfried et al., 2019). Together, therefore, such combinations of methods and philosophies have proven their suitability and helped provide extensive insight into the phenomena studied.

With respects to the current study, it is recognised that pragmatism most aligns with the researcher's perspectives and aims. As stated within Chapter 1, on purpos of this study to address investigators' needs for identifying potentially and/or especially dangerous CSDs online. In part, his means providing as much practically useful insights as possible by: 1) assessing CSDs' communicative themes and relevance to their offending tendencies/severity, 2) examining CSDs' vocabulary and connections to their offending tendencies/severity, and 3) considering how such variables might be used within investigative tools. To achieve these aims, therefore, the need and utility of adopting multiple means of analyses was recognised—thus demonstrating a pragmatic philosophy. By combining qualitative and quantitative analyses to assess CSDs' communicative themes and specific vocabulary, this study would afford itself the best chances of producing reliable insights of practical use for future research and for the development of an investigative tool. With the researcher's underlying philosophy established, therefore, what remains to be reviewed is what exact mixed methodology this study's dataset would permit.

Table 4.4: Schools of thought

Philosophies	Definition	Application	Strengths	Limitations
Rationalism	Regards reason based on intellectual and deductive criteria as the primary source and justification of knowledge and/or explanations	Suited for studies aiming to prove a theory, which could then be asserted as the definitive truth and/or objective reality	1) Ensures congruence of aims 2) Promotes monitoring personal progress 3) Prevents conclusions from exceeding knowledge 4) Develops logical explanations	1) Tendency to undervalue relevance of experiences 2) Discounting the (potential) relevance of opinions in establishing truth 3) Rejects examination of metaphysical contradictions and/or solutions
Interpretivism	Contends that to explain phenomenon and/or to understand 'reality', researchers must account for and examine the	Applied when attempting to show how people's perspectives configure reality	1) Provides detailed descriptions and/or explanations	1) Risk of biases and/or overly-interpretive inferences 2) Inability to falsify descriptive hypotheses

	experiences and perspectives of individuals' and/or groups'	and influence the nature of knowledge	2) Develops novel concepts and insightful hypotheses 3) Emphasises the personal thought processes (i.e., metacognition)	3) Unable to generalise findings
Constructivism	Examining the creation of concepts, mental models, and/or paradigms, generally as they pertain to the broader world	Best for studies aiming to develop theories, opposed to confirm hypotheses	1) Provides insights into 'real-life' situations 2) Helpful at problem-solving 3) Divergent/creative thinking 4) Emphasises the personal thought processes (i.e., *metacognition*)	1) Potentially undervalues objective learning and/or evaluation 2) Does not (always) conform to recognised practices or methods 3) Unable to verify facts
Empiricism	Argues knowledge primarily derives from observations (i.e., *sensory experiences*) more so that to innate traditions and/or customs, thereby valuing scientifically derived evidence to form ideas	Employed with the scientific method and/or closed systems to discern what variables do and do not contribute to a phenomenon	1) Established how some knowledge is gained from testing and/or experience 2) Demonstrates why a priori studies are disadvantaged to produce substantive truths 3) Evidences how scientific testing is imperative for confirming facts and/or beliefs	1) Potentially undervalues deductive logic 2) Risk of creating unrealistic scenarios and/or environments to produce and/or test data 3) Researchers potentially too removed from their relationship with a study
Structuralism[84]	Contends that (cultural) phenomena must be understood via their relationships to broader systems (i.e., abstract social structures) which underlay humans'	Adopted when deconstructing phenomena into their elemental components to understand their collective, interactions,	1) Critically recognises and/or assesses analysts' intents 2) Requires audience to consider personal preconceptions and/or responses	1) Emphasis/ preoccupation with introspection 2) Overt observations of samples/phenomena might impact their nature

[84] Although fundamentally a methodology, structuralism is also recognised as a school of thought and, therefore, is detailed along with research philosophies in Table 4.4.

	thoughts, feelings and actions	effects, and manifestations		3) Excessive deconstruction can produce specious findings
Pragmatism	Affirms that phenomena and philosophies are best evaluated and applied based on their practical applications opposed to describing, representing, or reflecting reality	Ideal for problem solving research, intent on theorising applications and/or making predictions in relation to a study's findings, opposed to explaining phenomena	1) Reliable use and/or insistence on techniques 2) Cogent and concise in methods and findings 3) Considerate of post-analyses influences on results 4) Valuable ecological validity 5) Objectivity	1) Rejection of knowledge which lacks application 2) May promote first solution and/or ignore others 3) Task-oriented opposed to people-oriented 4) Limited range of research 5) Little interest in explaining phenomena

Section 4: Chapter reflections

Expositions

When determining a study's approach, researchers are expected to consider three fundamental factors: 1) design, 2) methods and 3) underlying schools of thought (Panke, 2018). Regarding the latter two in particular, this past chapter has reviewed relevant and promising research philosophies and qualitative methodologies, based on previous CSD and/or CSO-focused studies and related approaches. In doing so, it was found that among their differing approaches, each aforesaid study entailed inherent strengths and weaknesses. To review, it was recognised that Thematic Analyses (i.e., Cockbain et al., 2014; Lambert & O'Halloran, 2008; Williams et al., 2012) and Grounded Theory (i.e., Holt et al., 2010) are ideal when samples are small, the data is detailed and the aims analysts are broad (Boyatzis, 1998). More specifically, by considering the relevance of influencing variables (i.e., culture, audience, personal experiences, etc.) when analysing writing or speech, the aforementioned methods encourage the consideration

of manifest and latent content and provide general processes of analyses, compatible with a priori and a posteriori hypotheses (depending on the method) (Boyatzis). As such, it is recognised that the schools of thought commonly/traditionally accompanying TA and GT (i.e., interpretivism, constructivism, symbolic interactionism, etc.) are suited for CSD-focused studies. However, because the focus of the current research is not on examining and scrutinising the realities of CSDs and/or their relationship with society, none of these approaches were deemed to align with the current study's principles or aims.

Building off such arguments, upon considering McManus et al.'s (2015) use of Content Analyses (CA), as well the empirical/positivistic philosophies demonstrated by CSO-focused linguistic studies (Chiu et al. 2018; Drouin et al., 2017; Parapar et al., 2012; Pendar, 2007; Siegfried et al., 2019, it was found that the methods and (typically) underlying schools of thought were more promising. However, while CA and/or its focus on manifest content provides a well-structured process, so does it avoid interpreting potentially crucial underlying messages and/or communicative themes. Alternatively, by appraising the comments as part of a larger dialogue, Discourse Analyses would help to identify communicative themes and linguistic idiosyncrasies within the latent content of CSDs' intercommunications,. Yet, in order to thoroughly account for the significance of all messages context and subtext, DA also requires extensive inferencing from the researcher. Ultimately, therefore, it was decided that a combination and/or balance of both aforementioned methods would by employed. However, as shall be discussed in the subsequent chapter, in order to better examine CSDs' language and incorporate statistical tests, additional (quantitative) analyses would also be necessary.

To the abovementioned points, the philosophy of pragmatism supports combining multiple qualitative and quantitative methods, as well as both a priori and a posteriori theories, to

maximise studies' insights, reliability and practical utility (Hannes & Lockwood, 2011; Okrent, 2019). By extension, the current research recognises the merits of analysing both manifest and latent content within CSDs intercommunications, whilst avoiding making overly-interpretive inferences. As justifications for this, the literature reviewed within Chapters 2 and 3 suggest that indications of specific risk factors (i.e., negative emotions, cognitive distortions, psychopathy, etc.) may be present within CSDs' communicative themes and language. However, as noted within McManus et al. (2015), Content Analyses is a descriptive tool which can only be used to identify themes, not to infer why themes may be present. Thus, by incorporating Discourse Analyses into this study's examinations of CSDs' communications, such would serve to consider the significance of a message's origin, audience and context, beyond what CA alone would allow. Moreover, by offering explanations with all observations (as DA requires), this approach will avoid making specious assertions and provide a unique contribution to the field research. Lastly, not only would utilising both CA and DA serve to assess communicative themes; but, so would the combination help to critique this study's quantitative analyses of CSDs' vocabulary (see Chapter 7 & 8), owing to the methods' linguistic links.

In order to incorporate content, discourse, and linguistic analyses into the present study, the researcher's process would begin with a focus on examining the manifest and/or connotative content of CSDs' communications, with inferences into statements' subtext and context being limited to interpreting ambiguous terms and/or vernacular.[85] During this stage, the researcher would attempt to identify communicative themes before reviewing each comment's latent content to consider its origin, audience and context within a dynamic dialogue for the next stage

[85] For example, comments such as: 'what is the youngest you've ever had or touched?' (McManus et al., 2015 pg.174) would be interpreted with 'youngest' meaning *child* and the terms 'had' and 'touched' referring to abuse.

of analyses. Subsequently, all identified communicative themes would be refined to account for comments' context and subtexts. From there, broader communicative themes would be progressively derived and defined until all subthemes are categorised. Akin to studies examining child sex groomers' vocabulary, moreover, the present research will examine the language of CSDs' intercommunications. As with any identified communicative themes, ultimately, such analyses would entail comparing the vocabulary of offenders with differing criminal histories, to identify potential idiosyncrasies among especially dangerous persons. In order to assure the aforementioned analyses could be performed (and what order), however, features of the samples' dataset would need to be thoroughly considered. Within the subsequent chapter, therefore, the study will continue to critique its chosen methodology.

Upcoming sections

Proceeding from the recent consideration of research approaches, Chapter 5 will detail the dataset of the current study. Afterward, the chapter will discuss how such material was processed and acquired, while likewise examining the strengths and limitations of said information. In so doing, Chapter 5 shall likewise further discuss the use of quantitative analyses, in advance of Chapters 8's in-depth review of the specific tests performed and their results. Correspondingly, these later chapters will review and expound upon how linguistic analyses and statistics hold promise for assessing CSDs' communications and identifying significant differences between CSOs' with differing offending tendencies and/or severity (see Chapters 7 and 8). As a result, this thesis will afford itself the best chances of producing reliable insights of practical use and address current gaps in research.

5. Methodology: An examination of the content, collection and processing of the study's dataset

Section 1: Data requested and received

Introduction: Components required and sources desired

Along with examining the general nature of computer mediated communications between CSDs, one aim of this pragmatic, exploratory study is to consider (potential) links between individuals' (sexual) communicative themes, vocabulary, and child sex offending tendencies. As such, with research such as Chiu et al., (2019) and McManus et al. (2015) serving as guidance, the current study desired information regarding the criminal histories and personal communications of convicted contact and non-contact CSOs.[86] Previously, to obtain comparable data, Chiu et al. and McManus et al., respectively requested records from US and UK police forces. In so doing, this approach eliminated the potentially confounding variables of: 1) police posing as CSDs, 2) CSDs utilising multiple accounts and/or 3) persons feigning to have sexual interests in children. Rather than obtain data from public sources (e.g., Perverted Justice), therefore, this study likewise requested information from investigators. Ultimately, after overcoming numerous complications (e.g., limited police resources, delayed security clearances, the Covid-19 pandemic, etc.), material approximating the data requested was acquired. However, as imminently elucidated and previously mentioned (see pg.19), owing to investigators' limited

[86] As with McManus et al. (2015), the term *contact CSOs* herein included persons convicted of at least one physical child sex offence (in addition to non-physical offences), while *non-contact CSOs* referred to individuals convicted exclusively of non-physical child sex offences.

retention of CSDs' intercommunications, this study was unable to categorise its sample as desired and was compelled to restrict its analyses to CSOs' comments of a sexual nature.

Dataset: source, size and components of sample

Dedicating what limited resources they could manage, data management officials and detectives at West Yorkshire Police (WYP) were able to compile examples of CSOs' electronic intercommunications as well as records of each subjects' child sex offence charges, convictions and sentences.[87] To this point, it should be noted that the conversations of offenders within WYP's sample did not occur exclusively on chatrooms, but also over text messages, apps and/or video calls (subsequently transcribed). Crucially, upon review, it was not evident to the researcher which method of communication was being used by an offender and/or which of their statements were originally spoken or typed. Given that research has indicated a person's style of expression alters when writing and speaking (see Torode, 1989; 2016), this complication bears recognition.

With this said, in the end, WYP were able to provide data on 12 adult males, each of whom spoke English as their first language. When enquired if a larger sample might be possible, investigators informed the researcher that the relatively small number of cases was (most likely) owed to the fact that comments regarding child sexual interests are (largely) legal within the UK. As such, said information is seldom essential for securing convictions and not commonly retained after investigations. Promisingly, however, the number of CSOs comprising this study's sample was comparable to the sets of offenders examined within Chiu et al. (2019) and

[87] Although it is established that general criminal behaviour can help assess the risk of (potential) CSOs, as part of the conditions to use WYP's records, details were limited to person's child sex offences.

McManus et al. (2015) (i.e., 9 and 12 CSOs respectively). However, as clarified below, while preparing WYP's dataset for analyses, it was found that two cases were unfit for testing.

Section 2: Dataset review and preparation

Offender transcripts

Beginning with a review of offenders' chatlogs, it was found that WYP's sample included a mix of conversations occurring between two parties (i.e., the CSO and unknown CSD) and groups of disparate sizes. In addition, within isolated chats and over multiple conversations, using public and private means of communication, it was noted that subjects interacted with CSDs whom they knew to greatly differing degrees (e.g., friends, acquaintances and strangers). As discussed within Chapter 2, past research indicates that the level of security and familiarity sensed among CSDs can affect their expectations and language when it comes to sharing statements which might warrant investigation (c.f.., Holt et al., 2010; Cockbain et al., 2013). Be that as it may, by analysing such a blend of conversations—whilst also accounting for differences between offenders' audiences and means of communication—this affords the present study with a sample better indicative of reality. So long as offenders were found to be communicating with fellow CSDs, therefore, their transcripts were not excluded from the researcher's analyses. Unfortunately, while as many chatlogs were retained as possible, not all within from WYPs' sample proved viable.

Upon initial examination, it was found that one CSOs' communications occurred with undercover officers. As such, despite the transcripts' rich content, the case was removed from the dataset. Subsequently, the researcher considered the length of each CSO's transcript (see Table

5.1, pgs.136) to identify whether any lacked a sufficient amount of content to reliably analyse. In the end, it was determined that one CSOs' chatlog was too brief, containing only five words—with all other messages sharing links to websites or icons (i.e., *emojis*) used to visually represent an emotion or concept (e.g., 😊). As such, this second case was also excluded, thereby bringing the study's final sample down to 10 offenders. However, even among this dataset, further examination determined certain content within CSOs' chats to be unfit for the present analyses.

To clarify, owing to the nature of the data provided, it was essential for WYP to redact all details deemed especially sensitive and/or confidential. More specifically, this entailed removing comments which overtly pertained offenders, victims, and/or third-parties' identities (e.g. internet handles/user names, appearances, locations, etc.). For electronic files, this meant deleting or generalising such details (e.g., replacing names with letters or numbers) while documents which were scanned had information was blacked out by hand. In the end, owing to WYP's efforts to keep such edits to a minimum, these redactions were not deemed prevalent enough to impact the study's analyses.[88] Yet, beyond said alterations, it was found that multiple offenders had their transcripts greatly abridged for a different reason.

In order to disburden officials from reviewing exceedingly lengthy chatlogs, it is common for police and/or consulting firms to produce *Streamlined Forensic Reports* (SFRs). In essence, this entails deleting all messages deemed irrelevant to investigations and/or for securing convictions. Regrettably, with regards to how assessors of CSDs' transcripts determine what statements are retained and which are deleted, no specifics were provided for this research. Going forward, therefore, similar studies would benefit from interviewing analysts who produce

[88] While the exact wordcount of redactions remained unknown, the appearance and coherence of CSOs' chatlogs indicated the amount of censored details to be negligible (i.e., several words on rare occasion).

SFRs, to better account for the context of comments within abridge chatlogs.[89] With this said, in regards to WYP's dataset, three SFRs were provided among the chatlogs of the study's final sample of 10 CSOs[90] (see Table 5.1, pg.142). In order to retain these SFRs, therefore, the following alterations to the study's intended analyses had to be made.

As discussed within Chapter 3, past studies have found that messages regarding non-sexual subject matter are common across CSD web forums (i.e., Holt et al., 2010; Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; O'Halloran & Quayle, 2010; McManus et al., 2015). Additionally, McManus et al. confirmed CSOs discuss adult relationships, with non-contact offenders posting about such topics significantly more than contact CSOs. For these reasons, statements of non-sexual and/or non-deviant subject matter were of interest to the present study. However, for investigators, comments which do not pertain to suspects' child sex offences are often deemed inessential to document, and thus removed from offenders' transcripts when compiling SFRs. Consequently, it was decided that the examination of all CSOs' chatlogs herein would be limited to offenders' comments of a sexual nature.

To clarify, if a CSO were to share messages about non-sexual and/or non-deviant subject matters, only to have these comments removed within SFRs, it would be misleading to contrast the themes within their abridged transcripts to offenders whose chatlogs retained all non-sexual and/or non-deviant comments. By extension, consideration was given to whether this study should discount all comments pertaining to adult sexual relationships—as such statements may have been excluded from within SFRs. However, as detailed in this thesis' qualitative analyses

[89] Likewise, because one transcript provided by WYP documented a conversation between undercover officers and a CSD, future research would also benefit from interviewing police who pose as CSOs to better assess whether such online discussions accurately echo natural CSD dialogue.
[90] In the case of the offender whose transcript was deemed too devoid of content for analyses, they too had their chatlogs compiled within an SFR.

(see Chapter 6), it was found that adult sexual acts were mentioned within the chatlogs of CSOs' whose communications were rendered into SFRs. For this reason, it was determined that all comments pertaining to adult sexual matters could be included within the study's analyses.

Delving further into the nature of SFRs, it is worth noting that, along with the abovementioned limits, analysing abridged chatlogs offers some benefits. Although examining unedited transcripts would be ideal for research, to only assess unabridged communications would not accurately reflect the material regularly provided to investigators. As acknowledged above, sources within WYP confirm that it is not uncommon for officers to be supplied with SFRs for performing risk assessments or planning arrests. By examining such reports, therefore, this study can critically assess the content commonly informing law enforcement's day-to-day decisions and actions. Moreover, in turn, this research can critique whether the communicative themes and specific vocabulary left within SFRs dramatically alters CSDs' organic dialogue and/or whether deferring to such condensed communications undermines any potential ability to appraise imminently and/or especially dangerous persons. In other words, by analysing a combination of SFRs and unabridged chatlogs, this study remains faithful to its underlying pragmatic philosophy by recognising the reality of what material police must often use on the job. Yet, to this same point, by choosing to analyse abridged and unabridged chatlogs alike, it is important to further discuss the final lengths of the sample's transcripts.

Following this study's decision to exclude non-sexual communications from its analyses, the lengths of individuals' electronic communications ranged greatly[91] (see Table 5.1, pg.142). In turn, it was essential to reconsider whether the briefest chatlogs could remain within the study's

[91] After a more thorough analyses, multiple chatlogs were found to have duplicated sections, due to being repeatedly documented by investigators. As such, these redundant sections were deleted, with said edits accounted for in relation to each transcripts' final wordcount.

sample. Upon referring to McManus et al. (2015), it was found their chatlogs ranged from 345-2,355 lines long. However, it was also clarified that aforementioned transcript lengths 'include[d] both participant and recipient communications' (pg.169). By contrast, the transcript lengths provided herein only include comments made by the subjects of WYP's sample**.** Thus, to some degree, this means the volume of content analysed by McManus et al. and the present study is more comparable than it initially seems. Additionally, it should be noted that the current study defined the term *lines* to mean: *distinct and/or separately sent statements, individually distinguished within new rows in Excel spreadsheets*.[92] As to whether McManus et al. used an equivalent definition, however, remains unknown. Thus, the comparison between WYP's dataset and that analysed within McManus et al. could be further misrepresentative. Lastly, it is worth noting that some transcripts within WYP's dataset contained more lines yet fewer word than other chatlogs (e.g., Case 1 v Case 10). Therefore, to compare CSD-focused studies' datasets by the number of lines within subjects' transcripts is not the most accurate method. As such, upon reconsideration, it was determined that SFRs were viable to include within this study's sample.

Table 5.1: Transcript specifics

Offender	Lines Long	Word count
Case 1	66	118
Case 2	229	2,516
Case 3	4,725	10,157
Case 4	194	659
Case 5	5*	70
Case 6	10*	16
Case 7	39	143
Case 8	18	126
Case 9	4*	50
Case 10	21	147
Mean	531	1,400

*Abridged for *Streamlined Forensic Reports*

[92] Owing to this definition, it was common for 'lines' within chatlogs to contain multiple sentences.

Sample of subjects: assessment of offenders and group categorisations

Originally, it was the researcher's intent to divide WYP's sample between contact and non-contact offenders. As addressed within Chapter 2, previous research (see Cohen, 2018; Ward and Beech, 2006) has confirmed that a positive relationship exists between contact sex offences histories and recidivism. Thus, it was reasoned that by splitting WYP's sample between contact and non-contact CSOs, this would not only better develop on the research of McManus et al. (2015), but would also afford the most straightforward means of identifying relationships between CSOs' offending histories and intercommunications. By extension, because the offending behaviours of (anonymous) CSDs are inherently unknown to police, it was hoped that by identifying communicative differences between contact and non-contact CSOs, these findings might one day provide the basis for future technology/algorithms to aid police in distinguishing particularly/especially dangerous persons and prioritising investigations. Ultimately, however, this method of categorisation did not prove feasible.

Out of the 10 offenders which comprised this study's final sample, it was found only one individual was convicted of a contact child sex offence. The remaining nine offenders, therefore, had all been exclusively sentenced for various non-contact offences. Regrettably, to adequately compare variables between differing types of individuals, researchers are expected to have groups of roughly equal size[93] (Field, 2018). To determine whether CSO categories of more even numbers could be derived from WYP's sample, therefore, multiple factors were considered.

By referring back to terminology discussed in Chapter 2 (see pg.129), it was found that various studies (i.e., Briggs et al. 2011; Broome, Izuraa & Lorenzo-Dus, 2018a; Broome, Izuraa & Lorenzo-Dus, 2018b; Chiu et al., 2018; Drouin, et al., 2017; Siegfried et al., 2019, etc.) make

[93] Within McManus et al. (2015), the dataset was comprised of five contact and seven non-contact CSOs.

distinctions between *contact-driven* and *fantasy-driven offenders*. To iterate, these categories (respectively) refer to CSOs convicted of attempting or committing physical sexual abuse and CSOs guilty of non-contact child sex offences, without attempts to physically abuse children. In turn, such distinctions are regularly used to distinguish between offenders of relatively high and low severity and/or risk to children—such as within Chiu et al.'s linguistic analyses into the chatlogs of contact-driven and fantasy-driven groomers.

With regards to the sample provided by WYP, it was found that one individual was convicted of child sexual grooming.[94] More specifically, this involved sending sexually coercive textual messages to children and engaging in video calls, during which victims were compelled to expose their sexual anatomy, while the offender sexually exposed (and pleasured) himself. Previously, various studies (e.g., Long et al., 2016; McCarthy 2010) have found child sex groomers to present an especially high risk of committing contact sex offences. Coupled with their willingness to actively victimise children, therefore, the aforementioned groomer presents a particularly severe and/or concerning danger—which, along with the sample's contact CSO, could classify both persons as *contact-driven offenders*.[95] With eight remaining CSOs classifiable as *fantasy-driven offenders*, however, a more exact method of categorisation was needed to obtain to further divide and compare subgroups within WYP's sample.

Continuing with the aim of sorting offenders in a manner which might eventually aid police identify particularly dangerous persons and/or prioritise investigations, the researcher

[94] Due to limited time and resources, it is not uncommon for suspects to only be charged with their most serious (alleged) offences. As such, despite indications that the sole contact CSO within WYP's sample also engaged in grooming, the individual was convicted of said offence.

[95] More specifically, Long et al., (2016) found dual CSOs to exhibit more offline incitement (36% v. 1%), offline grooming (37% v. 3%) and online grooming (75% v. 62%) than non-contact CSOs. Likewise, McCarthy (2010) reports contact CSOs to be more likely than non-contact CSOs to chat with children online (29 % v. 13%), send IIOC to children (9% v. 0%), send adult pornography to children (7% v. 2%) and try to meet with victims offline (19% v. 9%).

explored categorising all eight remaining non-contact CSOs by their most serious convictions.[96] Upon inspection, however, it was found that each uncategorised CSO was convicted exclusively of IIOC-related offences. Thus, one method of classification explored was sorting offenders by the most severe level of IIOC identified in their possessions. To clarify, when documenting offenders' IIOC collections, WYP referred to the rating systems of the Sentencing Advisory Panel (2002) and the Sentencing Guidelines Council (2013). In essence, these guidelines (see Appendix A) offer scales of severity which define how IIOC is to be sorted and ranked. As such, within the court of law, CSOs who possess especially severe IIOC are considered guilty of a more serious offence than CSOs with (only) lower-ranked IIOC. In turn, it was rationalised that offenders in WYP's sample who accessed especially severe IIOC (i.e., Levels 4 or 5) could be categorised within a distinct offender category. Upon inspection, however, it was found that all CSOs' within WYP's dataset possessed especially severe IIOC. Thus, alternative methods of categorisation had to be explored.

Eventually, it was recognised that while all eight remaining offenders were sentenced for *possessing* and *distributing* IIOC, out of this subsample, six CSOs were also convicted of *producing* IIOC. With the crime of producing IIOC requiring perpetrators to have directly contributed to generating sexually exploitative and/or abusive media of children (albeit without physical contact from the offender), this active victimisation of children was reasoned to indicate that the offenders who produced IIOC posed a greater threat than CSOs whose offences were limited to possessing and distributing IIOC. As such, it was ultimately decided that in order to explore the potential of gauging CSDs' offending risks and/or tendencies by identifying communicative idiosyncrasies, the 10 usable cases provided by WYP would be classified by

[96] For a comprehensive list of non-contact offences, see the Sexual Offences Act (2003) As example, however, such offences can include: voyeurism, indecent exposure, sharing explicit images, etc.

offenders' relative severity. To clarify, in the past, while examining key phrases in chats between child sex groomers and victims to develop e-Safety software, Elliot et al. (2010) classified their sample between *low* (n=2), *medium* (n=6), and *high (=3) risk offenders*, based on factors such as groomers' worst offences and history of recidivism. Consequently, this classification system not only distinguished between the individuals' offending behaviour but also recognised the reality that suspects are often only charged with their most severe offences. In the end, therefore, WYP's sample of offenders was categorised as follows.

As illustrated in Table 5.2 (see pgs.147), with regards to the dataset's contact offender (i.e., Case 9) and child sex groomer (i.e., Case 1), rather than label the pair as *contact-driven offenders*, said individuals were termed *Extremely Concerning Offenders* (*ECOs*). By extension the six CSOs convicted of producing child sex abuse media would be grouped within this study's second most severe offending category for analysis, hereinafter termed *Moderately Concerning Offenders* (*MCOs*) In turn, the remaining two CSOs convicted of strictly possessing and/or distributing child sex abuse media would comprise this study's least severe offender category, entitled *Least Concerning Offenders* (*LCOs*). Importantly, while this ratio of CSOs per offender category remained unideal, it was reasoned that the resulting mix of longer and shorter transcripts would permit for qualitative and quantitative comparisons between offenders' communications. Indeed, when examining their sample of child sex groomers sorted by (relative) severity, Elliot et al. (2010) had similar distributions, yet were able to successfully perform their study with promising results.

Table 5.2: Offender categorisations

Severity	Category	Definition	Rationale	Offenders	Transcripts
Lowest	Least Concerning Offenders (LCOs)	CSOs convicted of accessing, possessing and/or trading IIOC, but not for generating and/or sharing unique content.	Because no offense in this category involves actively victimising a child, it was ranked the lowest in severity.	Case 2 Case 5	2,516 words 70 words
Intermediate	Moderately Concerning Offenders (MCOs)	CSOs convicted of producing unique and/or original IIOC (in addition to other non-contact offences).	Given the exploitative and/or abusive nature of producing sexual media of children, this (additional) conviction was deemed to denote a more severe, diversified and/or prolific offender.	Case 3 Case 4 Case 6 Case 7 Case 8 Case 10	10,157 words 659 words 16 words 143 words 126 words 147 words
Highest	Extremely Concerning Offenders (ECOs)	CSOs convicted of committing or attempting to comit physical child sexual abuse (i.e., contact-driven), including the *incitement* of a victim online or offline.*	Because such CSOs were unquestionably attempting or committing physical abuse, they were deemed the most severe. This recognises the ambiguity of whether interacting with victims over (live) video closely relates to contact offences.	Case 1 Case 9	118 words 50 words

Further considerations

In addition to assuring that WYPs' sample was sufficient for achieving the researcher's aims, consideration was also given to several other potentially confounding and/or complicating variables. For a detailed review of these factors, further information is provided within this thesis' final thoughts (see Chapter 9). As an overview, however, it is important to iterate and acknowledge several key factors, regarding the qualities and processing of the dataset.

Firstly, as touched upon earlier (see pg.68) it is recognised that in an attempt to account for confounding variables, McManus et al. (2015) assured their sample of CSOs' chatlogs consisted only of one-on-one conversations, wherein their subjects each, individually conversed with a single, common CSO (excluded from any analyses). In principle, by having one mutual

recipient between all subjects in a sample, this would provide a standard in relation to the nature of responses which the study's subjects received in reaction to their messages. By using a common recipient, researchers can avoid: 1) repetitive conversations between differing persons, 2) an inconstant nature among the responses to subjects' comments and 3) differences in familiarity levels between messengers and recipients. For these reasons (and more), present study likewise desired to have a common recipient (i.e., *control*) for their sample. As addressed above, however, after making this request, to WYP informed the researcher that this was not possible. As such, this study's sample includes a combination of one-to-one discussions and group chats with known CSDs, occurring over a mix of standalone exchanges and interconnected conversations.[97] Thus, such inconsistencies may have influenced the nature CSOs' chats.

Next, owing to the dynamic natures of technology and communication, the researcher requested that all transcripts provided by WYP be no more than a decade old. By accounting for this factor, it was hoped this study's sample would remain relatively representative of contemporary electronic communications between CSDs. Thankfully, given the limited content they could find, WYP reported all cases comprising their dataset occurred within the last decade (although specific dates could not be confirmed).

Lastly, it is imperative to note that in the course of preparing their dataset for analyses, the researcher took precautions to remain blind to offenders' criminal histories. To clarify, when the sample was provided by WYP, officials had organised offenders' transcripts and offence histories within separate files, bearing identifying numbers (i.e., Cases 1-12). Before the researcher reviewed each CSOs' criminal records and/or sorted the subjects into their respective

[97]To clarify, the chatlogs of Cases 1-4 and 10 documented multiple conversations (differentiated by the parties involved and/or interim between exchanges) while Cases 5-9 each documented a standalone conversation.

offender categories, therefore, each CSOs' transcript was briefly assessed to assure the chatlogs' suitability for testing (not to conduct qualitative or quantitative analyses). Ultimately, as recently noted, this resulted in removing two cases from the dataset. Afterward, the researcher reviewed the criminal records of the sample's 10 remaining CSOs to form the study's offender categories (i.e., ECOs, MCOs and LCOs). Once complete, each offender's chatlogs and criminal profiles were then randomly reordered and provided a new identifying number (i.e., Cases1-10). As a result, this decreased the likelihood of the researcher recalling offenders' criminal behaviours while examining their communications.

It is also important to note that due to the sensitivity of WYP's data, only this study's researcher was permitted to examine the material. Because of this, the initial review of offenders' chatlogs and criminal histories had to be performed by the researcher themself. If an alternative method were feasible, however, these options would have been explored to help assure the researcher remained blind to offenders' criminal histories. Yet, such was not possible. With that said, before detailing what mixed method analyses WYP's sample allowed for, it is essential to assure that the research performed was ethical.

Section 3: Ethics

Initial considerations

Due to the high sensitivity of the current research, it was imperative that all ethical and security concerns be addressed in accordance with proper protocol and law. As a result, the researcher conducted an extensive review of relevant legislation and procedural guidance, as well as coordinated with multiple officials, including: WYP detectives, information technicians and university review panels. Owing to the volume of factors which had to accounted for, to

examine all variables herein would be impractical. However, to assure that WYP's data was properly handled, it is important to review the primary ethical and logistical considerations.

WYP: Data Processing Contract

Before any data was supplied, WYP mandated that any persons with (potential) access to the material (i.e., the researcher, information technicians, university officials) submit a joint Data Processing Contract (DPC). In brief, this document requested details on the present study's aims and utility, along with specifics on any ethical obligations and/or potential complications. Regrettably, once completed, the DPC's contents are classified. As such, only a blank DPC could be provided to clarify what details of the present study had to be addressed and approved beforehand (see Appendix C). To summarise, however, the contract served to assure that: 1) all feasible technological safeguards were employed, 2) all laws regarding data management (see below) were observed and 3) a timeframe for analysing the data was confirmed.

To this latter point, University of Huddersfield protocol typically requires all data to be retained for 10 years following research, barring needs and/or requests to re-examine the content. However, in relation to especially sensitive data, exceptions can be made. In this case, WYP desired that their data be analysed and deleted as soon as possible. Eventually, therefore, it was decided that a period of six months would afford the researcher with the time require to perform their analyses. After this time, all offender transcripts and criminal histories, as well as any notes of the researcher containing sensitive information (i.e., quotes), would be purged from all databases by university technicians. However, before such restrictions were agreed upon, the researcher was required to obtain approval from their advisors and institution.

Ethical overview and approval

In addition to addressing WYP's concerns, University of Huddersfield protocol mandates that all prospective studies first gain approval from the designated School Research Ethics Panel (SREP). For this, it is required that formal research proposal be submitted along with a Risk Assessment Form (see Appendix D) addressing: 1) the study's details, 2) all data management protocol, 3) considerations for the researcher's welfare and 4) any additional complicating variables. In designing the current study and completing the necessary forms, therefore, attention was paid to the code of ethics outlined by the *General Data Protection Regulation* (GDPR, 2018).[98] Likewise, so was recognition given to the research standards outlined by the *British Society of Criminology* (BSC), which insists that researchers: 1) maintain a good relationship with data gatekeepers, 2) clarify one's obligations and 3) avoid expedient research.[99] With the inspiration, aims, dataset and precautions of the current research now thoroughly discussed, it is imperative to finish detailing this study's methods of analysis.

Section 4: Mixed methods considerations

Introduction

As established within Chapter 4, the researcher decided that in order to thoroughly identify themes within CSOs' intercommunications, this study would perform both Content Analyses (CA) and Discourse Analyses (DA). To review, this would initially entail examining the manifest content and/or literal meaning of CSOs' chatlogs before reviewing the transcripts' latent content to consider statements' subtext and context within a dynamic dialogue. Concurrently, all identified communicative themes would likewise be defined and categorised. In

[98] For details on especially relevant GDPR guidance, see Articles 4, 6, 9, 10 and 48.
[99] For additional information, readers are directed to: http://www.britsoccrim.org/docs/CodeofEthics.pdf.

effect, this combination of methods would both allow for inferences to be made and maximise useful observations for future research or investigations.

Beyond performing these multiple forms of qualitative analyses, however, this study's pragmatic approach also recognises the utility of incorporating quantitative analyses (see Table 5.3). More specifically, by using statistical tests, the researcher was interested in comparing the communicative themes and/or language between differing offender categories (i.e., ECOs, MCOs and LCOs). Increasingly, research within a wide area of subjects demonstrates the benefits of combining the rich descriptive observations of qualitative analyses with the calculable comparisons and/or predictions afforded by quantitative tests (Allwood, 2012; Smeyers, 2008). As such, this study was intent on employing a mixed methods approach. With the recent review of WYP's sample establishing that CSOs' transcripts were sufficient for qualitative analyses, therefore, it is likewise crucial to consider the potential of WYP's dataset for performing quantitative tests.

Table 5.3: Traditional attributes of research approaches*

Preferences of approach	**Qualitative**	**Quantitative**	**Mixed Methods**
Philosophies	Knowledge is generally considered transformative and/or subjective, capable of being gained from experience and influenced by dynamic internal and external variables.	Knowledge is considered to consist of provable, universal truths, requiring controlled experiments, calculable measurements and/or direct observations.	Focused more on the utility of knowledge rather than its nature, favouring whichever perspectives and analyses provide the most practical function in real-world situations.
Sources of information	Favours detailed personal accounts, written documents, and/or spoken records.	Favours numerical and/or measurable information.	Analyses whichever combination of sources provides the most practically useful information.
Data collection	Open-ended questions/ interviews, direct and indirect observations, accessing records, etc.	Closed-ended questions, direct observations, experimental designs, etc.	Any combination of compatible analyses which yield the most useful findings (in implication and/or number)
Analytic methods	The researcher engages with their data and/or	The researcher seeks to establish objective facts	The researcher pairs whichever subjective

	subjects while performing self-assessments to make observations, generate theories or models and assess their findings from recognised perspectives.	defining, quantifying, and statistically analysing phenomena, preferably when data is generated, isolated, and/or regulated through experiments.	observations and statistical tests offer the best options to critically examine data and measure any findings' significance.

*As indicated by this table's title, the characteristics provided for each method pertain to the analyses' traditional approaches, although numerous exceptions and overlaps exist (see Allwood, 2012)

Strengths and weaknesses

Based on a review of research within the UK by the Health Research and Development Programme, the use of mixed methods has proliferated over recent decades (Doyle, Brady & Byrne, 2009; O'Cathain, Murphy & Nichole, 2007). As the (potential) relations and combinations of qualitative and quantitative analyses continue to be explored, the range of benefits resultantly grows. By critically evaluating the literature of both theoretical and empirical research, however, Bryman (2006) and Sale, Lohfeld and Brazil (2002) observed several primary purposes and/or advantages to using mixed methods (see Table 5.4). With respects to the present study, the findings that combining qualitative and quantitative analyses assist with testing hypotheses, explaining results, answering multiple research questions and developing instruments for testing are particularly auspicious. Although it is beyond the scope of this study to explain the phenomena of CSDs' intercommunications or create an investigative tool, it is nonetheless hoped that this research will contribute to both goals in the future.

Table 5.4: Primary benefits of mixed methodologies

Strengths	Description
Triangulation*	Establishes corroboration between qualitative and quantitative data can bolster studies' validity.
Completeness*	Offers a more comprehensive understanding of phenomena in question.
Offsetting weaknesses and providing stronger inferences*	Helps develop more reliable inferences by balancing and/or neutralising the limitations of each, individual approach/method.
Answering different research*	Addresses queries which cannot be answered by qualitative or quantitative methods alone and allows a greater repertoire of research tools to be used.

Explanation of findings**	Serves to diversify the approaches applied to understanding a phenomenon, which can help generate unusual and/or unanticipated findings.
Illustration of data**	Assists with describing, depicting and/or portraying phenomena.
Hypotheses development and testing**	May help develop hypotheses to be tested in later studies and/or phases of research.
Instrument development and testing**	Useful for generating items and/or identifying variables which (together) provide standardised modes and/or tools to examine phenomena.

*See Bryman (2006) **See Sale et al. (2002)

Beyond the advantages addressed above, it has also been recognised that by combining research and methods from various fields, studies can provide more practical, interdisciplinary findings (Doyle et al., 2009). As repeatedly mentioned, one aim of the current research is to examine the vocabulary used within communications between child sex offenders. Thus, by conducting linguistic analyses on WYP's sample (as eventually proved possible[100]), this study would add a unique contribution to multiple fields. Yet, with this being said, some researchers (e.g., Sale et al., 2002) have cautioned that mixed method analyses may have been too readily accepted. To this point, other scholars (discussed below) have noted several potential weakness or detriments with mixed methods. When finalising this study's decision to employ such analyses, therefore, these limitations had to be considered.

Firstly, relating back to philosophical matters discussed in Chapter 4, it is the stance of some scholars (e.g., Creswell & Plano Clark, 2007; Guba, 1987) that qualitative and quantitative analyses are of distinct ontological and epistemological origins, and that to combine methods of research, therefore, is impractical and/or irresponsible. To methodological purists in particular, there are clear dichotomies between world views (e.g., rationalism v. empiricism and/or interpretivism v. positivism) which must be respected (Doyle et al., 2009). Yet, as already discussed, it was recognised within this thesis that even (traditionally) opposing schools of view

[100] See Chapters 7 and 8.

present distinct and overlapping strengths and weaknesses. For these reasons, the above-mentioned concern over mixed methods' appropriateness was not shared herein.

That being said, it has also been contended that mixed method's commonly underlying philosophy of pragmatism (as adopted herein) is problematic. In brief, Mertens (2003) argues that to base studies' approaches on the stance of selecting whatever methods might work does not adequately address for whom the research is of practical use. To this point, however, most researchers argue that such matters should be sufficiently addressed within studies aims (Doyle et al., 2009; Tashakkori & Teddlie, 2003). In the case of this current research, it had been repeatedly established that the results of this study are intended to be of use to both researchers and investigators, in the pursuit developing guidelines and/or tools for assessing CSDs offending risks and/or histories. Thus, this potential limitation was not deemed of concern.

Lastly, it has been suggested that performing qualitative and quantitative analyses in one study may prove excessive for a single researcher (Johnson & Onwuegbuzie, 2004). To this point, it has been noted that mixed methods can require an excessive amount of time and resources (Ivankova, Creswell & Stick, 2006). Given that the researcher was allotted six months to process WYP's dataset, therefore, performing mixed methods analysis was potentially overly ambitious. However, by adhering to a regulated schedule and regularly conferring with police and the researcher's advisors, the study was able to thoroughly and responsibly conducted.

In the end, therefore, it was reasoned that the potential benefits of performing mixed method analyses for the current study outweighed the potential detriments. Nevertheless, before a final decision could be made, various other factors had to be considered. Given the diversity of what procedures might be used and to what effect, in choosing to conduct qualitative and quantitative analyses, it is important for researchers to consider what typology of mixed method

most applies to their study. Thus, in order to properly recognise what mode of mixed methods was performed for the current research, the underlying variables must be addressed.

Descriptive dimensions

Whenever considering the approach to a study's mixed methodology, numerous factors (i.e., *dimensions*) must be considered (Guest, 2012). Complicating matters further, to determine what typology of mixed methods most applies to a study, there is no strict consensus on what dimensions need to be addressed (Guest). As such, the primary descriptive dimensions researchers are instructed to consider have been summarised below, in Table 5.5. For clarity's sake, however, Guest advises researchers to focus on addressing their study's *point(s) of interface.* Accordingly, this dimension shall be addressed in more depth.

Table. 5.5: Descriptive dimensions of mixed methods

Key descriptive dimensions	**Explanation**	**Dimensions of current study**
Timing of the interface between datasets	At what phases will the study conduct its qualitative and quantitative analyses (i.e., simultaneously or successively)	Circumstances around processing WYP's data required the study conduct its qualitative and quantitative analyses successively.
Purpose of the interface between datasets	What is the reason and/or justification for pairing qualitative and quantitative data (i.e., to inform, triangulate, explain, etc.).	The use of language and topics of discussion are inherently linked yet also allow for unique messages to be crafted in seemingly inexhaustible ways. Thus, similarities and distinctions may exist between the themes and vocabulary of differing CSO typologies.
Theoretical orientation	What philosophic principles and/or approaches underlie the research (i.e., inductive or deductive; interpretivists or positivist, etc.).	The study's pragmatic approach allowed for combining different philosophic principles in order to find the most useful results.
Purpose of the research	For what reason is the study and its use of mixed methods being performed (i.e., practical application, advocacy, theoretical explorations, etc.).	The study is intended to be of use to police and researchers, in developing guidelines and/or tools to assess CSDs offending risks and/or histories.

Number of points of interface or degree of integration	In what ways do the qualitative quantitative data interrelate (i.e., fully v. partially; single v. multistrand, etc).	Because the qualitative and quantitative analyses were performed successively (and then examined together), this research would be a partially mixed study.
Relative importance of differing data	Between a study's qualitative and quantitative analyses, which should be recognised as more significant and/or of interest (if there is any preference).	Given the study's exploratory nature and small sample, no emphasis could be placed on the significance of its qualitative or quantitative analyses. However, the study's quantitative (i.e., linguistic) component provided a unique contribution to research.

As defined within Guest (2012), a study's *point(s) of interface* refer to: 'any point… where two or more data sets are mixed or connected in some way' (pg. 146). For example, when applied to McManus et al. (2015), the points of interface would pertain to the interrelation between the themes within CSOs' communications and the offenders' criminal histories. Initially, therefore, this study's points of interface were predicted to be much the same. However, this did not prove to be the case. To elaborate, within McManus et al., the researchers calculated the correlations between subjects' communicative themes and offender categories (i.e., contact and non-contact) by analysing all chatlogs: 'line by line, with each line being assigned a theme; [which] provided each participant with a frequency for each of the themes' (pg. 170). Subsequently, the strength of relationships between the study's offender categories and the frequencies of communicative themes within CSOs' chatlogs were calculated using statistical analyses (see Chapter 7). This was done, not only to test for significant differences between contact and non-contact CSOs, but also to account for unequal lengths among offenders' transcripts. To this latter point, such adjustments were possible because every line within a transcript was treated (quantitatively) as a uniform part of a whole, thereby creating a standardised unit (i.e., a line) with an absolute zero (given that it is not possible to mention a

theme a negative number of times).[101] With respects to the present study, however, comparable analyses were deemed unfit to perform.

Although it is recognised that McManus et al.'s (2015), method of analyses was able to account for variation among transcripts' lengths, this alone would not negate the disparities between transcripts within WYP's dataset. As recently explained, owing to a mix of unabridged chatlogs and Streamlined Forensic Reports (SFRs) within this study's sample, to compare the prevalence of thematic categories within transcripts which remained (relatively) whole to chatlogs reduced to their most incriminating messages would be misleading. Moreover, because the content coming before and/or after a given statement might influence the meaning of the message being analysed, to code transcripts line by line was not deemed to be contradictory with performing Discourse Analyses. In the end, therefore, an alternative mode of quantitative analyses, as well as a different point of interface, was explored.

As discussed within Chapter 3, by examining the vocabulary of contract-driven and fantasy-driven child sex groomers, researchers have identified several idiosyncrasies between the two CSO categories (i.e., Chiu et al., 2018; Parapar, Losada & Barreiro, 2012; Siegfried et al., 2019). Moreover, within the field of psycholinguistics, so has it been found that the vocabulary individuals use can reveal aspects about their personal lives and/or mental states (e.g., Tauscik & Pennebaker, 2010), including known risk factors for committing contact abuse. Given these findings, it was decided that this study would perform quantitative analyses on CSOs' transcripts by statistically testing for significant differences in the vocabulary between each offender category. To this point, because the language which CSOs uses would be compared between this study's offender categories (i.e., ECOs, MCOs and LCOs), this interconnection between trends

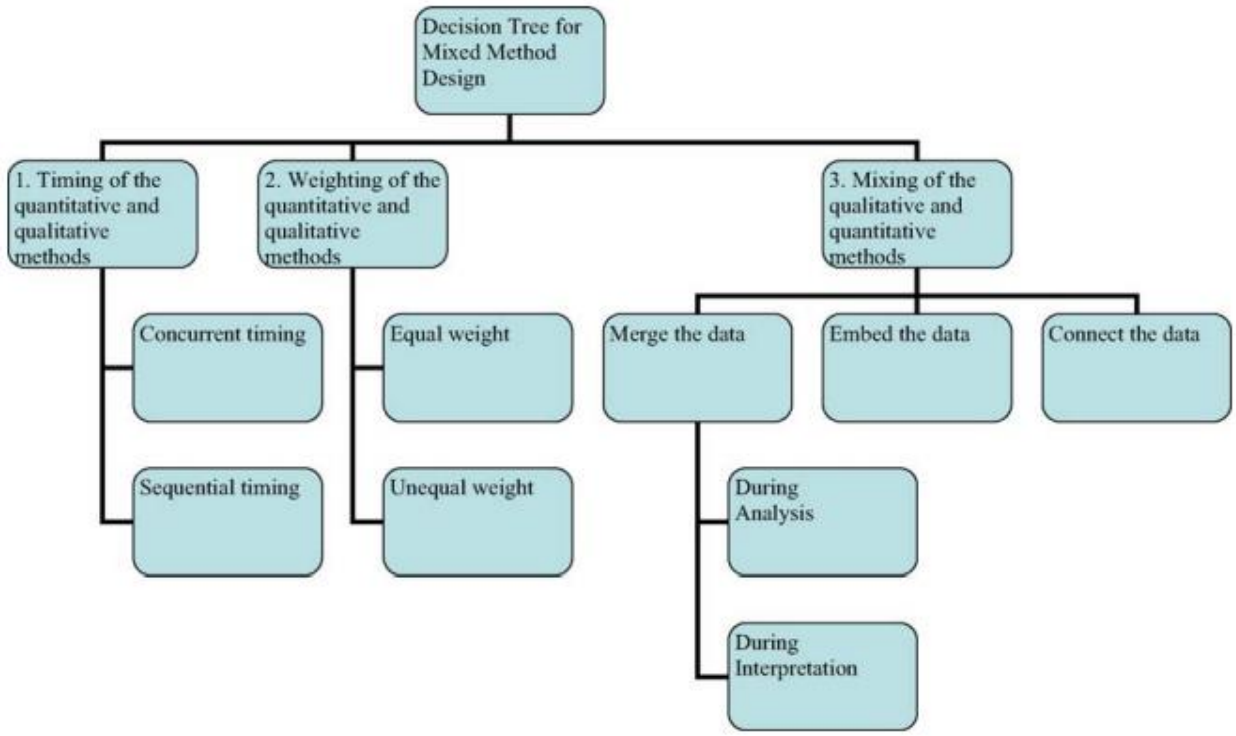
[101] For a more detailed summary of McManus et al. (2015), consult the source material.

in vocabulary and criminal histories serves as the point of interface between this study's datasets of offender transcripts and arrest records. In turn, this link validates the study's mixed methodology. However, even still, before any analyses could occur, the researcher made sure to consider what typology of mixed methods was being performed.

Mixed method typologies

In attempt to distinguish between mixed method designs, researchers have sought to delineate and/or define typologies of approaches, using a wide variety of factors (e.g., Creswell, et al., 2003; Creswell & Plano Clark, 2007; Greene & Caracelli, 1997; Leech & Onwuegbuzie, 2006; Tashakkori & Creswell, 2007; Teddlie & Tashakkorri, 2006). As a result, Maxwell and Loomis (2003) have contested that: 'the actual diversity in mixed methods is far greater than any typology can adequately encompass' (pg. 244). Nonetheless, Doyle et al. (2009) has identified five primary designs of mixed method studies. To conduct the present research, therefore, each prominent typology will be briefly reviewed to determine which most applies and can serve as a guide. Moreover, in identifying the most applicable approach, so shall attention be afforded to Creswell et al. and Creswell and Plano Clark's (2007) decision tree, which emphasises considering the timing/order of a study's qualitative and quantitative analyses, the weight given to different findings and how datasets mix (see Figure 5.1, pg.160). For details on additional dimensions, therefore, readers are directed back to Table 5.5 (pg.156).

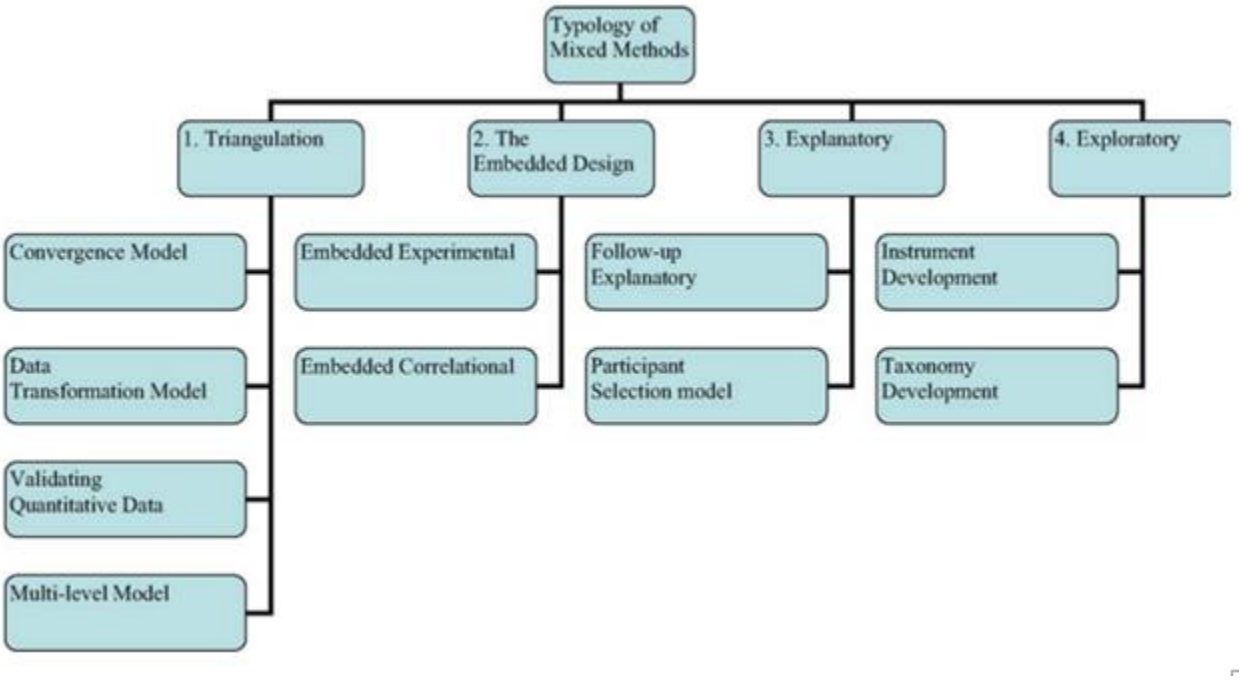
Figure 5.1: Creswell et al. (2003) and Creswell & Plano Clark's (2007) Mixed method typology decision tree (reproduced from Doyle et al., 2009)



Both the most common and challenging of the primary mixed method typologies (see Figures 5.2 and 5.3, pages. 161 and 163), the *triangulation design* entails studies wherein qualitative and quantitative analyses are performed simultaneously (Creswell et al., 2003). Correspondingly, the results of said analyses are treated equally significant (i.e., afforded the same weight) (Doyle et al., 2009). Inasmuch, the triangulation design is an example of a *convergence model*: when the integration of datasets and observations occur along with the interpretation phase (Doyle et al.). Likewise, the model requires the study's qualitative and quantitative data to be collected concurrently, and is predominantly used when a study's focus is to examine systems and/or structures of phenomena at different levels (Doyle et al.). For multiple reasons, therefore, the triangulation design does not apply to the present study.

To explain, for reasons detailed in Chapter 8, preparing CSOs' transcripts for this study's linguistic analyses took an extended period of time. As such, with only six months to review the WYP's data, this study's qualitative and quantitative analyses could not be performed at the same time. Relatedly, it cannot be claimed that all components of offenders' transcripts and/or convictions were collected simultaneously, given that some CSOs' chatlogs document distinct communications made on separate occasions and because offenders' sentencing did not occur until a much later date. Therefore, more mixed method typologies needed to be considered.

Figure 5.2: Creswell & Plano Clark's (2007) mixed method typologies (reproduced from Doyle et al., 2009)



In regards to the *embedded design*, such research refers to studies with one dominant method, leaving the secondary dataset to play a supportive role (Greene & Caracelli, 1997). More specifically it is often the quantitative analyses which are afforded the most weight, which makes the embedded design popular among experimental models (Creswell & Plano Clark,

2007). Often, however, this design is used to examine the effects of added variables and/or interventions, and is used with *correlational mixed methods* to verify statistically significant relationships between variables (Doyle et al., 2009). Given that the present study is exploratory, was provided a small sample and is not experimental in design, however, it was determined that pre-eminent weight/significance would not be afforded to either this study's qualitative or quantitative analyses. Thus, while this research intends to establish correlations between features in CSOs' communications and their offending histories, the embedded design does not apply.

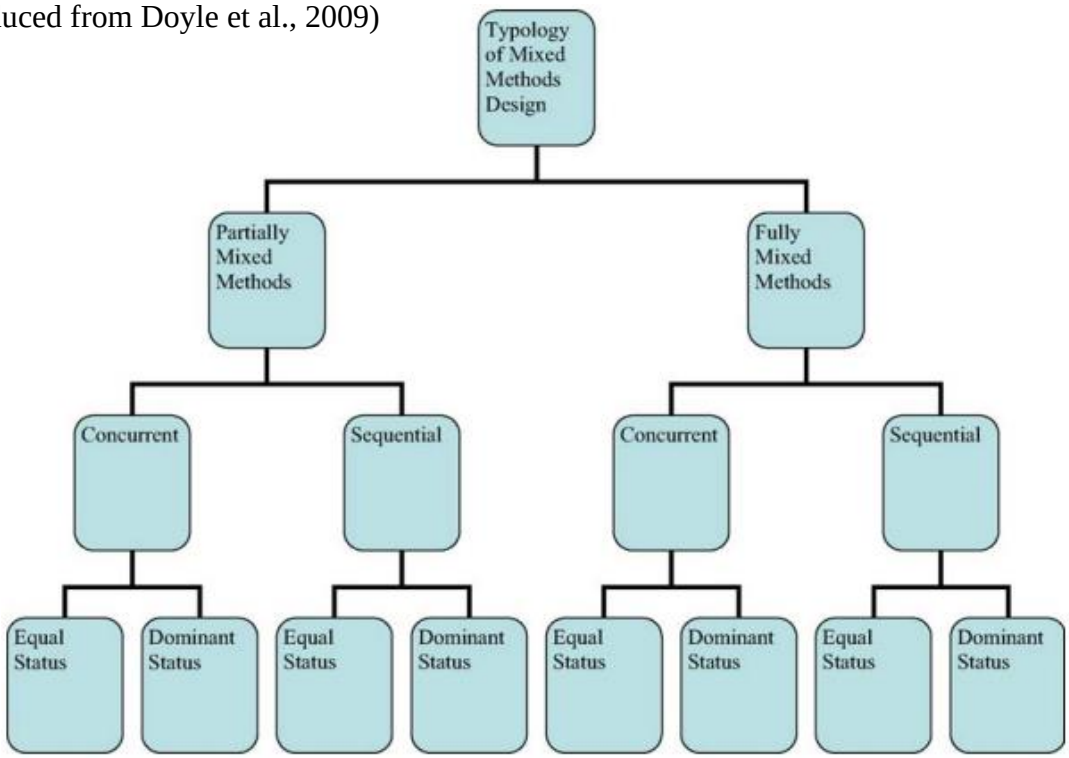
Next, the *explanatory design* pertains to analyses consisting of two (primary) phases: first the quantitative stage, then the qualitative stage (Creswell et al., 2003). Similar to the typology recently described, this design aims to use studys' qualitative analyses to augment and/or explain any preceding quantitative results (Doyle et al., 2009). Commonly, this entails the researcher identifying quantitative findings of especial interest before developing a research phase which focuses on specific findings and/or participants (Doyle et al.). In theory, therefore, this model could prove beneficial for the present study. Once again, however, it was decided no particular emphasis would be placed on this study's qualitative or quantitative analyses. Additionally, as previously stated, the time constraints on the present study to analyse WYP's data necessitated that qualitative analyses be performed first, which breaks from the explanatory design.

Fourth among the primary models, the *exploratory design* is likewise sequential in nature, and involves conducting qualitative analyses to develop/inform a study's quantitative phase (Creswell et al., 2003). Predominantly, this design is favoured in developing instruments/tools for research and/or analyses, and is well-suited for creating (corresponding) taxonomies (Doyle et al., 2009). Once more, however, this model emphasises a study's quantitative analyses (Doyle

et al.). In the future, therefore, the exploratory design may serve for CSD-focused research. Yet, at present, it was not considered the best suited.

Lastly, by reviewing existing mixed method designs, Leech and Onwuegbuzie (2006) proposed a simplified model (see Figure 5.3). In essence, this design incorporated the three primary design dimensions (i.e., time orientation, weighing of qualitative and quantitative analyses and mixing dataset/results) to produce two overarching mixed method typologies: *fully mixed* and *partially mixed* (Leech & Onwuegbuzie). With relation to the latter, fully mixed methods refer to studies were qualitative and quantitative components are combined during testing and in at least one of the following elements: 1) the research objective(s), 2) the types of data and 3) analysis and inference (Doyle et al., 2009, pg.82). Alternatively, partially mixed methods entail when quantitative and qualitative analyses are conducted independently, and are only interrelated during a study's interpretation phase (Doyle et al.). Moreover, this latter design allows for quantitative and qualitative findings to be afforded equal weight (Doyle et al.). As such, it is Leech and Onwuegbuzie's partially mixed method design which was applied and deferred to for this study's analyses.

Figure 5.3: Leech & Onwuegbuzie's (2006) Partially and Fully mixed method designs (reproduced from Doyle et al., 2009)



Section 5: Chapter reflections

Expositions

To assure that studies are conducted using the most viable approach, it is imperative for researchers to account for what methods and designs are suitable for achieving their (ideal) aims (Panke, 2018). Crucially, such considerations serve to both promote reliable results and assure that alternative approaches are assessed (Panke). Upon reviewing the approaches of previous studies, particular attention was paid herein to McManus et al. (2015), whose revealed that communicative differences may exist between the messages of contact and noncontact CSOs on child sex chatrooms. Consequently, it was this study's intent to similarly compare the communicative themes within contact and non-contact CSOs intercommunications in hopes of identifying significant differences which might (eventually) assist police and/or researchers assess CSDs' risk levels and/or offending histories. Despite said intentions, however, an alternative (albeit related) approach was eventually adopted.

In the end, following an extensive search process, West Yorkshire Police (WYP) ultimately agreed to supply information for the current study. After processing, this sample consisted of 10 convicted child sex offenders' (relevant) criminal histories and their (transcribed), electronic conversations with fellow CSDs.[102] In essence, said dataset provided information comparable to what was requested. Because WYP's sample contained only one contact offender and nine non-contact offenders, however, the study was unable to divide its subjects into roughly equal, dichotomous categories. Instead, therefore, the research referred to

[102] Initially, WYP's sample contained 12 CSOs. As explained, however, two cases were removed.

the nature of each offender's most severe conviction(s), eventually classifying its sample into the categories below.

Table 5.6: Offender categorisations

Severity	Category	Definition	Rationale	Offenders
Lowest	Least Concerning Offenders (LCOs)	CSOs convicted of accessing, possessing and/or trading IIOC, but not for generating and/or sharing unique content.	Because no offense in this category involves actively victimising a child, it was ranked the lowest in severity.	Case 2 Case 5
Intermediate	Moderately Concerning Offenders (MCOs)	CSOs convicted of producing unique and/or original IIOC (in addition to other non-contact offences).	Given the exploitative and/or abusive nature of producing sexual media of children, this (additional) conviction was deemed to denote a more severe, diversified and/or prolific offender.	Case 3 Case 4 Case 6 Case 7 Case 8 Case 10
Highest	Extremely Concerning Offenders (ECOs)	CSOs convicted of committing or attempting to comit physical child sexual abuse (i.e., contact-driven), including the *incitement* of a victim online or offline.*	Because such CSOs were unquestionably attempting or committing physical abuse, they were deemed the most severe. This recognises the ambiguity of whether interacting with victims over (live) video closely relates to contact offences.	Case 1 Case 9

By using the abovementioned classifications, it was reasoned that a reliable comparison of chatlogs between offenders of differing severity was possible. Yet, even still, a further complication was presented, given that WYP's dataset contained a combination of unabridged transcripts[103] and Streamlined Forensic Reports (SFRs). With only comments of particular interest to investigators being documented within SFRs, it was ultimately decided that only comments of a sexual nature would be thematically coded and compared between offender categories. Thus, because the researcher could not have confidence in comparing the frequency

[103] Not including redactions owed to security and/or privacy concerns.

and/or proportion of themes between full-length chatlogs and SFRs, a different use of statistical analyses was explored.

As discussed within Chapter 8, previous studies have found significant differences in the language used between contract-driven and fantasy-driven child sex groomers when communicating with children online (i.e., Chiu et al., 2018; Parapar et al., 2012; Siegfried et al., 2019). Additionally, within the field of psycholinguistics, researchers have found people's vocabulary to reveal aspects about their personal lives and/or mental states (i.e., Tauscik & Pennebaker, 2010), which include known risk factors for committing contact abuse (see Chapters 3 and 7). As such, this research reviewed the benefits and (potential) limits of mixed method analyses and concluded the design was advantageous to employ. More specifically, it was determined Leech and Onwuegbuzie's (2006) partially mixed method typology most applied to the aims and capabilities of the current study—based (predominantly) on the dimensions of time orientation, weighing of qualitative and quantitative analyses and mixing the study's dataset/results. This means that the researcher would first conduct its qualitative analyses and then its quantitative tests, only comparing the findings of these stages following distinct discussions (see Chapter 8). Correspondingly, it was decided to structure this thesis by first describing the results from its qualitative analyses before reviewing literature into (psycho)linguistics and detailing this study's statistical tests.

Upcoming sections

Throughout Part 3 of this thesis, Chapter 6 will discuss this study's qualitative analyses, defining identified themes and noting any (possible) relations to CSOs offender categories. Likewise, so will Chapter 6 touch upon potential explanations to these findings, and note how

such information might be useful to investigators and/or future studies. Yet, for a more in-depth discussion on such matters, further information will be provided within this thesis' mixed method analysis section (see Chapter 8). Before these remarks, however, Chapter 7 shall review the (psycho)linguistic literature which informed the study's quantitative analyses. Thus, once this second stage of the mixed methods approach is complete, these aforesaid linguistic tests will be used (to a limited extent) to help inform this study's qualitative analyses, which, in turn, can help offer insight in the statistics findings as well.

PART III
Qualitative analyses: Initial discussion

6. Qualitative analyses findings

Section 1: Content and structure of chapter

Introduction

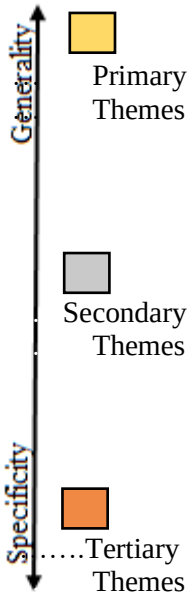
In total, analyses of offenders' transcripts yielded 47 thematic categories, hierarchically ranked between seven *primary* themes, 19 *secondary* themes and 21 *tertiary* themes, proceeding from the broadest to the most specific categories (see Table 6.1).[104] Given that the present analyses examined far fewer transcripts than most preceding CSD-focused studies (see Chapter 3), this quantity of thematic categories may initially seem excessive. Upon further consideration, however, the number of themes presently identified was found to be fairly consistent with past research, given that the current study employed both Content and Discourse Analyses—opposed to a single approach, as in the case of past studies. Although it was not a concern of the researcher to produce a similar number of communicative themes as previous studies, these comparisons help to assure that the present study's small sample and ample redactions to CSOs' transcripts did not greatly limit and/or compromise its results. To this point, it should be noted that not all of this study's communicative themes are mutually exclusive. On occasion, rationale could be found to sort comments into multiple higher or lower thematic categories. In the end, however, distinctions could be made based on statements' manifest and latent content.

With this all said, to effectively discuss each of this study's 47 communicative themes, the current chapter will proceed in sections organised by the seven primary thematic categories, as displayed within Table 6.1. To clarify, this order was chosen in an attempt to minimise the

[104] For a visual representation, see Appendix E.

number of references made to additional themes and/or observations which are not examined until later in the chapter. Furthermore, along with their analyses, the researcher will touch upon potential relations between this study's identified communicative themes, CSOs' offender categories and comparisons to previous studies. However, as discussed in Chapter 5, the final phase of interpretation for all findings is provided toward the end of this thesis (see Chapter 8).

Table 6.1: Communicative themes and subthemes

Thematic tiers	Condition	Sexual Interests	Claims	Fantasies	Pursuits	Caution	Justifications
	Physical state/stage	IIOC Commentary	Non-offences	Improvisations	Stimuli	Secrecy	Enjoyment/ want
	Offender's Psychology	Identification/ Specification	Deviances	Narrations	Media	Security	Entitlement
	Reactions	Actions	Experiences	Urges	Interfacing		Extenuation
		Paraphernalia	Offences		Encouragement		
		Victim Preferences	Child offences		Rapport		
		Children's physiques	Victim access		Curiosity		
		Ages of Attraction	Denials		Courting		
		Wishful Situations	Animal Abuse				
		Envy	Adult Relationships				
		Conditions and Context	Significant Others				
			Sexual Partners				
			Confederates				

Section 2: **Condition and subthemes**

Theme 1: Condition

Early into the researcher's examination, it was observed that comments relating to CSOs' anatomical, physiological and/or mental states were prevalent. Indeed, a total of eight out of the 10 CSOs' within WYP's dataset were found to make such remarks. Ultimately, statements which

detailed offenders' personal states of being were classified under the higher-order theme of *Condition*. Upon further consideration of said statements' manifest and latent content, however, within the primary theme of Condition, a total of three secondary themes where derived (see Table 6.2). As such, discussions regarding these subthemes' content and/or their relation to CSOs' offender categories, are provided below.

Table 6.2: Condition-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Condition	Details and/or descriptions regarding the CSO's personal state and/or expressions conveying CSO's emotional responses elicited by stimuli.	N/A	N/A	- LCOs: 2 - MCOs: 3,4,7,8,10 - ECOs: 1
2	Physical state/ stage	Statements about the messenger's anatomy, physiology and/or age.	'Fucking hell I was rock hard'	Referencing an erection experienced while on bus with teenage females.	- LCOs: 2 - MCOs: 3,4,7,8,1 - ECOs: 1
2	Offender's Psychology	Comments on messenger's general mental and/or emotional state—separate from statements defined as *Reactions* herein.	'Now I'm sixty…but my mind is still 35 yrs (sic)'	CSO insisting they feel younger mentally than they are physically.	- LCOs: 2 - MCOs: 3,7,10 - ECOs: 1
2	Reaction	Statements and/or expressions conveying messengers' emotional responses elicited by stimuli (i.e., pornography) or thoughts (i.e., supposed memories) presented during a conversation.	'WOW that's getting me horny'	Comment about IIOC shared by fellow CSD .	- LCOs: 2, 5 - MCOs: 3,4,6,7,8 - ECOs: 1

Physical state/stage

Regarding comments pertaining to CSOs' body and/or age, such statements were classified under the second-tier theme of *Physical state/stage*. As a collective, said information was found to be shared within the manifest content of offenders' statements (e.g., 'Ive (sic) got

an average penis') and within the latent content of figures of speech (e.g., 'I was rock hard'[105]). To this point, although some vernacular was unknown to the researcher upon commencing their analyses (e.g., the term *tail* in place of *penis*), such parlance proved easy to infer based on statements' context. Ultimately, therefore, through the combination of Content and Discourse Analyses, similar results were found within WYP's dataset as themes (e.g., *Sexual Self*) reported within McManus et al. (2015).

With this said, in total, it was revealed that one LCO, five MCOs, and one ECO (i.e., the convicted groomer) made comments classifiable under the theme of *Physical state/stage*. In regard to the LCO and MCOs, their comments largely detailed states of arousal and/or orgasm. Distinctly, however, while two MCOs and the one LCO were also noted to make brief comments on their (alleged) ages, the ECO alone progressively decease their (calendrical/ corporeal) age the more they contributed to the online forum.[106] Given that this offender was convicted of child sex grooming and may have been posting on a chatroom visited by children,[107] this gradual reduction in the ECOs' (alleged) age may be indicative of actions taken when manipulating potential child victims. However, without further information, this reasoning remains specious. Indeed, with respects to the three offenders whose chatlogs did not contain comments on their body and/or age, it is worth noting that all had transcripts under 100 words long.

Offender's Psychology

Next, offenders within WYP's sample were also found to share comments relating to their mental states. For this reason, the second-tier theme of *Offender's Psychology* was derived.

[105] Based on syntax, the phrase 'rock hard' was interpreted herein as referring to an erection.
[106] Decreasing their age from 43 to 42 to 23 and ultimately 20-years-old.
[107] In some instances, comments from anonymous individuals claiming to be teenagers were found within offender's transcripts (see pg.210).

Altogether, it was revealed that one LCO, three MCOs, and the sample's child sex groomer made comments classifiable under this theme. Whilst making these classifications, some metaphorical phrases (i.e., 'Now I'm sixty…but my mind is still 35 yrs (sic)') required recognition of a statement's latent content. Overall, however, offenders from each category were found to be fairly direct when commenting on their psychology, often detailing their emotional states.

Building off this latter point, in previous research, studies have repeatedly and reliably established that negative and/or unhealthy mental states can increase individuals' risks of committing contact offences (see Ward & Beech, 2016). Among WYPs' sample, however, no relationship between *Offender Psychology*-related comments and CSOs' offence categories were observed. In total, three LCOs and one MSOs expressed negative emotions relating to stressors felt while acquiring or deleting sexually illicit media.[108] while the remainder of *Offender Psychology*-related statements expressed levels of arousal with a positive and/or noncritical tone.

Reaction

Lastly, with respect to the third subtheme under the higher-order theme of *Conditions*, analyses revealed that offenders would further share details of their physical and/or mental states through (more) indirect means. To clarify, under the subtheme of *Reactions*, the researcher categorised all statements and/or expressions which served to convey the messengers' emotional and/or physical response to sexual stimuli or thoughts (e.g., 'WOW that's getting me horny'). Unlike statements classified under the subthemes of *Physical state/stage* and *Offender Psychology*, therefore, *Reaction*-related statements only addressed the offenders' physical and/or

[108] Based on this study's limited data, however, it is unknown whether subjects' mental states (e.g., negative affect) influenced their rate of offending.

psychological states within the latent content of commentary on sexual stimuli. Thus, such comments were considered to be distinct among offenders *Condition*-related statements.

By and large, *Reaction*-related statements were noted to be relatively terse, containing no more than several words, and being primarily shared to acquire more explicit/illicit media and/or to build a dialogue with CSDs who shared similar interests and/or preferences (as discussed further below). Across most chatlogs, moreover, such comments were among the most frequent and/or abundant statements. In total, it was found that that both LCOs, five MCOs, and the sample's child sex groomer made comments classifiable under this theme. Overall, therefore, the primary theme of *Condition* appears common among CSOs' intercommunications yet did not reveal any relationship with individuals' offending histories.

***Section 3*: Sexual Interests and subthemes**

Theme 2: Sexual Interests

Shifting focus to this study's second higher-order theme of *Sexual Interests*, it was found that comments regarding CSOs' sexual proclivities were made by every offender within this study's sample. More specifically, for purposes herein, the theme of *Sexual Interests* was defined as: *direct and/or indirect acknowledgment of that which the commenter finds sexually arousing and/or desirous, excluding comments demonstrating the active use of imagination defined herein as Fantasies*.[109] Upon further consideration, moreover, it was found that three second-tier subthemes and seven third-tier subthemes could be subsequently derived (see Tables 6.3).

[109] For clarification, Section 5 (pg.200).

Additionally, among said thematic categories, multiple observations of interest were found and shall, therefore, be detailed below.

Table 6.3: Sexual interest-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Sexual Interests	Direct and/or indirect acknowledgment of that which the commenter finds sexually arousing and/or desirous—excluding comments demonstrating the active use of imagination defined herein as *Fantasies.*			- LCOs: 2,5 - MCOs: 3,4,7,6,8,10 - ECOs: 1,9
2	IIOC Commentary	Observations made in the form of critique and/or remarks by the messenger with regards to sexually explicit media involving children.			- LCOs: 2 - MCOs: 3,4,7,8,10 -ECOs: 1
3	Identification/ Specification	Clarification and/or confirmation of CSOs' sexual attractions and/or preference when commenting directly on specific children within sexually explicit media.	'Prefer that girl in the middle'	Offender singling out one child (among several) within a sexually illicit image whom they found relatively more arousing	- LCOs: 2 - MCOs: 3,4,8,10 - ECOs: N/A
3	Actions	Approval expressed by CSOs' in regards to specific sexual movements, positions, behaviours, performances, etc. performed by children in sexually explicit media.	'She's posing like a pro (sic)'	Approval of female victim depicted in IIOC	- LCOs: 2,5 - MCOs: 3,7,8 - ECOs: 1
3	Paraphernalia	Preference and/or approval expressed by messenger in regards to apparel, objects, equipment, tools, toys, etc. use by or on children in sexually explicit media.	'Those stripey black tights are amazing'	Expressing approval of clothing worn by victims in IIOC, which the offender requested	- LCOs: 2 - MCOs: 3,4,7,8 - ECOs: 1
2	Victim Preferences	The specification and/or description of persons whom the messenger considers better and/or ideal (hypothetical) victims or			- LCOs: 2,5 - MCOs: 3,4,6,7,8,10 - ECOs: 9

		sexual partners, without reference to IIOC.			
3	Children's physiques	Statements on the anatomy and/or physiology of children, excluding *IIOC-Commentary* remarks.	'I do love bald pussy'	Offender expressing preference for lack of secondar sexual characteristics	- LCO: 2,5 - MCOs: 3,4,7,8,10 - ECOs: 9
3	Ages of Attraction	Clarification regarding the age ranges and/or development stages which the messenger finds appealing and/or arousing.	'Yeah I'd probably go from about 5 or 6 through to 16'	CSO clarifying their preferences in relation to (hypothetical) victims (and/or IIOC)	- LCOs: 2 - MCOs: 3,4,6,8,10 - ECOs: N/A
2	Wishful Situations	Recognition of sexual scenarios which the messenger would find enjoyable, excluding *IIOC-Commentary* remarks the active use of imagination defined herein as *Fantasies.*			- LCOs: 2 - MCOs: 3,4,8 - ECOs: N/A
3	Envy	Expressed desire and/or jealousy regarding specific opportunities and/or circumstances available to, experienced by, or performed by others.	'Lucky bastard whoever got to shoot on that'	Expressing jealousy toward CSD who claims to have ejaculated onto a child's legs	-LCOs: 2 -MCOs: 3,4,8 -ECOs: N/A
3	Conditions and Context	Specification of the nature and/or circumstances relating to (hypothetical) sexual situations which the messenger would find ideal and/or preferable	'Great only if she is unwilling'	Offender expressing the desire of resistance from (hypothetical) victims	-LCOs: 2 -MCOs: 3,4 -ECOs: N/A

IIOC Commentary

Although not a communicative theme, within a majority of this study's transcripts, it was found that a large number of posts and/or messages were videos and pictures of children, typically of a sexually explicit nature. Unsurprisingly, therefore, so was it observed that many of offenders' comments related to such media. As such, under the higher-order theme of *Sexual Interests,* all commentary on images/videos of children were categorised under the second-tier theme of *IIOC Commentary.* In total, such comments were found amongst both LCOs, five MCOs, and the study's child sex groomer. Be that as it may, however, no relationship between

IIOC Commentary-related remarks and CSOs' offending categories were found. Yet, even still, from these statements, two third-tier subthemes were subsequently identified (see Table 6.4).

Table 6.4: Indecent Images of Children-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Sexual Interests	Direct and/or indirect acknowledgment of that which the commenter finds sexually arousing and/or desirous—excluding comments demonstrating the active use of imagination defined herein as *Fantasies*			- LCOs: 2,5 - MCOs: 3,4,7,6,8,10 - ECOs: 1,9
2	IIOC Commentary	Observations made in the form of critique and/or remarks by the messenger with regards to sexually explicit media involving children.			- LCOs: 2 - MCOs: 3,4,7,8,10 -ECOs: 1
3	Identification/ Specification	Clarification and/or confirmation of CSOs' sexual attractions and/or preference when commenting directly on specific children within sexually explicit media.	'Prefer that girl in the middle'	Offender singling out one child (among several) within a sexually illicit image whom they found relatively more arousing	- LCOs: 2 - MCOs: 3,4,8,10 - ECOs: N/A
3	Actions	Approval expressed by CSOs' in regards to specific sexual movements, positions, behaviours, performances, etc. performed by children in sexually explicit media.	'She's posing like a pro (sic)'	Approval of female victim depicted in IIOC	- LCOs: 2,5 - MCOs: 3,7,8 - ECOs: 1
3	Paraphernalia	Preference and/or approval expressed by messenger in regards to apparel, objects, equipment, tools, toys, etc. use by or on children in sexually explicit media.	'Those stripey black tights are amazing'	Expressing approval of clothing worn by victims in IIOC, which the offender requested	- LCOs: 2 - MCOs: 3,4,7,8 - ECOs: 1

Identification/Specification

Often corresponding with exchanges of IIOC, presumably depicting multiple victims at the same time, it was observed that CSOs within this study's sample would single out children

which they found to be especially sexually arousing. Ultimately, such statements were observed within the transcripts of both LCOs and four MCOs and categorised under the tertiary theme of *Identification/Specification*. By and large, such comments were phrased as blunt and/or direct statements, rarely containing additional information (see Table 6.4) and regularly reading as if the CSOs were attempting to either indicate what IIOC content they most desired and/or trying to use such media to clarify sexual interests or thoughts which the CSO might otherwise and/or additionally (try to) describe. As pertains the LCO of Case 2, the offender was also noted to make such comments shortly before detailing sexual fantasies (see Section 5), as if the CSO were casting a child for the role of victim. With only two examples of such remarks, however, little more could be gleaned. Presently, therefore, *Identification/Specification* comments appear common among CSDs' intercommunications, with no relationship to offending tendencies.[110]

Actions

In addition to identifying specific children within IIOC which they found especially arousing, it was observed that CSOs would request and/or praise videos and/or images which depicted certain sexual acts (e.g., movements, positions, behaviours, performances, etc.) which the offender found particularly arousing. Consequently, such comments were classified under the tertiary theme of *Actions* and were identified within the chatlogs of both LCOs, three MCOs and the sample's child sex groomer. Amongst such comments, it was observed that a wide variety of favoured sexual acts were specified. To clarify, the LCO of Case 2 was found to explicitly state that they preferred and desired IIOC depicting violent rape (i.e., 'I like watching young girls get raped'; and, 'I do enjoy a good rape video too'). Relatedly, however, multiple offenders (i.e.,

[110] In relation to whether differences among CSOs' sexual preferences related their offending histories, such considerations are discussed throughout the present chapter, where deemed most relevant (e.g., *Actions*, *Victim preferences*, *Wishful Situations*, *Fantasies*, etc.).

Cases 3 & 8) also expressed enjoyment at the idea of violent rape and/or IIOC depicting such content. Yet, given that these comments were remarks merely conveying the messengers' emotional responses to such stimuli (e.g., 'WOW') and/or did not involve viewing actual IIOC, the comments were categorised under the themes of *Reactions* and *Paraphernalia*, respectively.

Alternatively, in relation to the remaining *Action*-related remarks, it was found that offenders would state that they preferred and/or desired IIOC depicting sexual acts, which would be considered normal or deviant (but not illegal or inherently harmful) if performed with an adult (e.g., fellatio, cunnilingus, roleplay, etc.). Ultimately, therefore, while *Action*-related remarks appear to be particularly coming among exchanges between CSOs/CSDs, no relationship between to this study's offender categories was identified.

Paraphernalia

Lastly, as pertains to offenders' *IIOC Commentary*-related remarks, it was found that another subject frequently commented on was the objects and/or accessories (e.g., articles of clothing, sex toys, etc.) used in making such sexually explicit media. In total, comments of this nature were identified among one LCO, four MCOs and this study's convicted child sex groomer. Categorised under the tertiary theme of *Paraphernalia*, by and large, such comments were brief, merely noting a CSO's approval of and/or attraction toward the object in question (e.g., 'Those stripey black tights are amazing'). That said, in respects to the offender of Case 8 (as touched upon above), the MCO was found to make numerous, highly graphic comments directly expressing their attraction toward a baby doll being used in explicit videos. Nonetheless, as concerning as this latter observation may seem, given the prevalence of *Paraphernalia*-related comments, no relationship to CSOs' offender caregorisations was observed.

Victim preferences

Shifting focus to *Sexual Interest's* next second-tier theme, *Victim Preferences* (see Table 6.5), it was found that beyond commenting on children within IIOC, offenders would also describe the attributes of hypothetical (i.e., fictional) children which they found particularly appealing. To this point, it is recognised that such comments are inherently similar to statements categorised under the above-described theme of *Identification/Specification* —in that they too serve to clarify what type of children the offenders find especially arousing. Yet, importantly, rather than entailing brief statements referring to external stimuli, comments which served to conceptualise imaginary, ideal victims (of contact or noncontact abuse) were found to be more descriptive and/or direct in detailing offenders' preferences and/or proclivities. As such, statements of this nature were considered distinct and correspondingly classified under the second-tier theme of *Victim Preferences* and its two tertiary themes, discussed further below.

Table 6.5: Victim preferences-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Sexual Interests	Direct and/or indirect acknowledgment of that which the commenter finds sexually arousing and/or desirous—excluding comments demonstrating the active use of imagination defined herein as *Fantasies.*			- LCOs: 2,5 - MCOs: 3,4,7,6,8,10 - ECOs: 1,9
2	Victim Preferences	The specification and/or description of persons whom the messenger considers better and/or ideal (hypothetical) victims or sexual partners, without reference to IIOC.			- LCOs: 2,5 - MCOs: 3,4,6,7,8,10 - ECOs: 9
3	Children's physiques	Statements on the anatomy and/or physiology of children, excluding *IIOC-Commentary* remarks.	'I do love bald pussy'	Offender expressing preference for lack of secondar sexual characteristics	- LCO: 2,5 - MCOs: 3,4,7,8,10 - ECOs: 9

3	Ages of Attraction	Clarification regarding the age ranges and/or development stages which the messenger finds appealing and/or arousing.	'Yeah I'd probably go from about 5 or 6 through to 16'	CSO clarifying their preferences in relation to (hypothetical) victims (and/or IIOC)	- LCOs: 2 - MCOs: 3,4,6,8,10 - ECOs: N/A

Children's Physiques

With respects to comments categorised under the subtheme of *Children's Physiques*, it was found that offenders would frequently clarify and/or describe the physical features of children which they considered (especially) arousing. More specifically, it was observed that both of this study's LCOs, five of its MCOs and the ECO convicted of contact offences would share such details, with the study's non-contact offenders often debating which physical attributes were more appealing and why. In this context, it often read as if such comments were not only shared for arousal purposes, but also to build rapport. As pertains to the aforementioned ECO, however, their remarks about preferable child anatomy were often quickly related back to their confirmed (contact) offences, as if to partially relive the experience. On that note, however, it is important to clarify that the subject was communicating with a single individual, whom they seemed to already know. In the end, therefore, while *Children's Physique*-related comments were found to be common among CSOs' general intercommunications, no relationship to offending histories were observed.

Ages of Attractions

Next, in regards to the second subtheme under *Victim Preference* statements, it was found that in addition to commenting on physical features of children which offender found arousing, so where specifications made regarding CSOs' preferred age ranges and/or developmental stages of children. In total, it was noted that one LCO and five MCOs made such remarks. Regrettably, however, owing to redactions within the offenders' transcripts, the context of such comments

remained fairly ambiguous. Nonetheless, given that MCOs were not only convicted of possessing and distributing such sexually illicit media (as with LCOs) but also of producing such content, it is reasonable to consider that making IIOC may further incentivise CSOs to specify what ages of children they find most arousing. Because of the disproportionate sizes between offender categories, and because both of this study's ECOs also had histories of producing IIOC, however, such a hypothesis warrants further examination in future research.

In addition, it is worth noting that the LCO of Case 10 stated that they were attracted to females between 15 to 45-years-old. Technically, therefore, this finding remains consistent with McManus et al.'s (2015) observation that non-contact CSOs are (significantly) more likely to express interest in adult sexual relationships.[111] By itself, however, this finding does little (if anything) to reaffirm this apparent trend. Moreover, given investigators' tendency to selectively document offenders' most incriminating remarks, it is possible comments pertaining to adult sexual relationships were left out of the ECOs' transcripts. Whichever the case, ultimately, no relationship between *Age of Attraction* statements and offense categories could be determined.

Wishful Situations

To conclude this section's review of secondary themes under *Sexual interest*-related comments, beyond CSOs' remarks on what IIOC content and/or children's qualities they found most arousing, it was also observed that offenders would comment on hypothetical sexual scenarios which they found especially appealing. Crucially, it is recognised that such statements may initially seem equivalent to comments which praise specific actions within IIOC (see pg. 176) and/or detail offenders' sexual fantasies (see pg.200). Yet, this is not the case. To clarify, it

[111] As clarified later on, this finding was further supported by non-contact offenders' mention of spouses and/or sexual partners (see pg.200).

was found that CSOs would (also) bluntly acknowledge sexual scenarios which they would find enjoyable, without referring to IIOC or actively using their imagination to develop and/or engage with the (fictious) scenarios, as if they were reality or a possibility. Put differently, CSOs would merely address what sexual scenarios they would find (particularly) appealing as a fact. Thus, comments of this nature were categorised under the second-tier theme of *Wishful Situations*, from which, two tertiary subthemes were subsequently derived (see Table 6.6).

Table 6.6: Wishful Situations-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Sexual Interests	Direct and/or indirect acknowledgment of that which the commenter finds sexually arousing and/or desirous—excluding comments demonstrating the active use of imagination defined herein as *Fantasies.*			
2	Wishful Situations	Recognition of sexual scenarios which the messenger would find enjoyable, excluding *IIOC-Commentary* remarks the active use of imagination defined herein as *Fantasies.*			- LCOs: 2 - MCOs: 3,4,8 - ECOs: N/A
3	Envy	Expressed desire and/or jealousy regarding specific opportunities and/or circumstances available to, experienced by, or performed by others.	'Lucky bastard whoever got to shoot on that'	Expressing jealousy toward CSD who claims to have ejaculated onto a child's legs	-LCOs: 2 -MCOs: 3,4,8 -ECOs: N/A
3	Conditions and Context	Specification of the nature and/or circumstances relating to (hypothetical) sexual situations which the messenger would find ideal and/or preferable.	'Great only if she is unwilling'	Offender expressing the desire of resistance from (hypothetical) victims	-LCOs: 2 -MCOs: 3,4 -ECOs: N/A

Envy

In regards to the first subtheme under *Wishful Situation* statements, it was noted that one LCO and three MCOs acknowledged sexual acts which they would find especially appealing, while also expressing jealousy toward whomever engaged in such behaviour. Given that the focus of such comments was less about the specified sexual acts and more about CSOs' accompanying feelings of jealousy and/or resentment, such comments were categorised under the tertiary theme of *Envy*. More specifically, among the abovementioned offenders, each CSO commented on a variety of offences they wished to perform, including inappropriately touching teenagers, violently abusing toddlers and raping an infant to death.

To clarify, although the only example of excitement/envy at the prospect of murder (i.e., infanticide) was found within the chatlog of an MCO (i.e., Case 8), so did the LCO of Case 2 express jealousy toward offenders who were able to forcefully rape children and/or toddlers. As such, given that CSOs from multiple categories not only expressed envy towards persons able to commit and/or simulate contact offences, *Envy*-related remarks would appear to be a common theme expressed on CSD and/or CSO web forums. By extension, because CSOs from multiple categories expressed jealousy in relation to individuals able to commit violent assaults, no connection between offenders' categories and the presence or context of *Envy*-related statements could be discerned. Lastly, given that the MOC of Case 8 was holding a one-to-one conversation while the remaining offenders of this subgroup were communicating with multiple individuals, the differing contexts of their statements must be recognised as a potentially influencing variable.

Conditions and context

Next and last among the subcategories under *Wishful Situation*, it was found that a theme within the chatlogs of one LCO and two MCOs involved specifying the nature and/or conditions

which an ideal and/or preferable sexual scenario would entail. As an example, it was noted that the aforementioned LCO commented that sex with a hypothetical underage female would be pleasurable only if the victim was unwilling (see Table 6.6). Similarly, among pair of MCOs noted to make similar comments, both were found to specify that the pleasure they would (hypothetically) derive from sex with children was largely dependent on violent rape and/or unconscious victims. Statements of this nature, therefore, were classified under the tertiary theme of *Conditions and Context.* In relation to the context of such comments, it is worth noting that the LCO would emphasise their preference for rape scenarios shortly before or after requesting or discussing IIOC, as if intending to elicit a response and/or receive said media in return.

By contrast, the MCOs would make similar comments in response to and/or after other CSDs posted about (potential) victims they had access to (i.e., biological children, step-children, neighbours, etc.). As such, because MCOs were convicted of producing sexually illicit media (as was as possessing and distributing IIOC), it is reasonable to consider that making such comments were a method of the offender to indirectly incentivise and/or inspire other CSDs to commit similar offences and share IIOC. However, given the rarity of such comments among MCOs and the absence of similar statements among this study's ECOs (who also had histories of producing IIOC), more data is needed to draw any conclusions. As such, no relationship between CSOs' *Conditions and Context*-related statements and their offender categories was ultimately discerned.

Section 4: Claims and subthemes

Theme 3: Claims

Beyond making remarks which explicitly confirm their sexual interests, CSOs of this study's sample were also found to share details of their sexual deviancies within comments otherwise classified under the primary theme of *Claims.* Referring to admissions of aberrant and/or illegal sexual acts, such statements were found to be rife across all CSO categories, whether the claims were truthful not.[112] In total, it was revealed that both LCOs, four MCOs, and one ECO (i.e., the convicted contact offender) made *Claims*-related remarks. Furthermore, within this primary thematic category, three secondary themes and nine tertiary subthemes (see Table 6.7) were discerned. With particularly intriguing results from these observations, each subtheme comprising *Claims*-related remarks shall be reviewed.

Table 6.7: Claims-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Claims	Comments regarding (unsubstantiated) acts, occurrences and/or events which the CSO alleges to have taken place.			-LCOs: 2,5 -MCOs: 3,4,7,10 -ECOs: 9
2	Non-offences	Details on messenger's (purportedly) lawful, sexual behaviour, excluding acts with fellow adults (herein categorised under *Adult Relationships*)			-LCOs: N/A -MCOs:3,4,7,10 -ECOs: N/A
3	Deviances	Statements detailing sexual acts performed by the CSO which would be considered normal and/or deviant yet not unlawful by mainstream society.	'Been wearing her thongs for 3yrs (sic)'	Written in reference to offender's stepdaughter.	-LCOs: N/A -MCOs: 3,4,7,10 -ECOs: N/A
3	Experiences	Allegations of (legal) sexual events which	'I was 7/8 [years -old]	Assertion of having witnessed a sexual	-LCOs: N/A -MCOs: 3,10

[112] Owing to limited information available to investigators and/or the researcher, establishing the veracity of CSOs' claims (beyond those pertaining to the offenders' convictions) was not possible.

		messengers declare to have personally encountered and/or undergone as an adjunct/ second party or victim.	… hiding …and saw it all'	act between adults during offenders' childhood.	-ECOs: N/A
2	Offences	Allegations of the messengers' supposed involvement with illegal, sexual acts.			-LCOs: 2,5 -MCOs: 4,7,10 -ECOs: 9
3	Child offences	Avowals about committing illicit activities against children.	'Played with her until she was 6 [years old]'	Detailing sexual abuse which the CSO asserts to have committed against the daughter of significant other.	-LCOs: 2,5 -MCOs: 4,10 -ECOs: 9
	Victim access	Statements directly explaining and/or acknowledging the circumstances which assisted and/or allowed for the messenger to commit sexual offences.	'I was seeing this woman and she had a daughter'	Explanation given by offender, regarding how they had found a victim to sexually abuse.	-LCOs: 2 -MCOs: 7,4 -ECOs: N/A
	Denials	Assertions that the messenger has not committed certain unlawful activities.	'[I] never actually fucked her'	CSO expressing disappointment at have never having penetrated a female child with their penis.	-LCOs: 2 -MCOs: 3,4,7 -ECOs: N/A
3	Animal Abuse	Avowals about committing illicit sexual acts against animals.	'I still wank* my dog'	Claim made by the CSO, when discussing in zoophilia/bestiality, that they masturbate their dog.	-LCOs: N/A -MCOs: 7 -ECOs: N/A
2	Adult Relationships	The identification and/or description of persons whom the messenger is and/or was involved with or connected to in some manner with sexual elements.			-LCOs: 2 -MCOs: 3,4 -ECOs: N/A
3	Significant Others	Comments on individuals whom the messenger is and/or was romantically and committedly involved with.	'You see my mrs tits'	Comment made by CSO after sharing nude images of (alleged) wife.	-LCOs: 2 -MCOs: 3,4 -ECOs: N/A
	Sexual Partners	Statements concerning strictly physical and/or sexual companions whom	'I was wanking* with some guy and he	Comment regarding interactions (i.e., masturbation) with a fellow adult male.	-LCOs: N/A -MCOs:4 -ECOs: N/A

		the messenger was and/or is legally involved with.	kept wanking me'		
3	Confederates	Platonic relationships specified by the messenger as conduits for (better) accessing and/or acquiring sexual stimuli or victims.	'Had a good one a while ago but he's not live at the moment. He had lots of links'	Referring to an anonymous individual who helped offender to procure IIOC.	-LCOs: 2 -MCOs: 4 -ECOs: N/A

Non-offences

To start, among CSO's *Claims*-related remarks, analyses revealed that CSOs would profess to engaging in sexual acts (excluding comments involving relationships with fellow adults, see pg.196), which mainstream society would (likely) deem deviant but not illegal. Accordingly, this second-tier theme was entitled *Non-offences* and was subsequently determined to be comprised of two tertiary themes: *Deviances* and *Experiences* (see Table 6.8). In essence, with regards to these aforesaid tertiary themes, a distinction was made between comments which detailed (apparent) sexual acts/events which the sample's CSOs were responsible for and statements which detailed (supposed) sexual acts/events, wherein the sample's CSO was involved, albeit as a secondary party. Together, such analyses revealed numerous insights, with four MCOs found to make *Non-offence*-related comments.

Table 6.8: Non-offence-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Claims	Comments regarding (unsubstantiated) acts, occurrences and/or events which the CSO alleges to have taken place.			-LCOs: 2,5 -MCOs: 3,4,7,10 -ECOs: 9
2	Non-offences	Details on messenger's (purportedly) lawful, sexual behaviour, excluding acts with fellow adults (herein categorised under *Adult Relationships*)			-LCOs: N/A -MCOs:3,4,7,10 -ECOs: N/A

3	Deviances	Statements detailing sexual acts performed by the CSO which would be considered normal and/or deviant yet not unlawful by mainstream society.	'Been wearing her thongs for 3yrs (sic)'	Written in reference to offender's stepdaughter.	-LCOs: N/A -MCOs: 3,4,7,10 -ECOs: N/A
3,	Experiences	Allegations of (legal) sexual events which messengers declare to have personally encountered and/or undergone as an adjunct/ second party or victim.	'I was 7/8 [years -old] … hiding …and saw it all'	Assertion of having witnessed a sexual act between adults during offenders' childhood.	-LCOs: N/A -MCOs: 3,10 -ECOs: N/A

Deviancies

Regarding comments which detailed deviant sexual acts/events, wherein CSOs claimed to be the primary actor, it was found that four MCOs made such *Deviance*-related remarks. By and large, comments of this nature involved claims of engaging in sexually aberrant yet (relatively) unharmful acts, such as: wearing women's lipstick, posting (personal) masturbation videos online and furtively leering at women and children in public. Among said claims, however, more concerning allegations were also made. These included, wearing underwear which belonged to a teenage girl and going to public hangouts (e.g., local pools) to talk with children.[113] To this point, it is also worth noting that the CSOs' claims which pertained to interacting with children in public places also occurred while exchanging and critiquing of IIOC.

When considered together, the fact that offenders who alleged to perform particularly deviant and/or concerning acts were also convicted of producing IIOC, it is conceivable that such claims relate to the CSOs' offending histories. Given that only four MCOs were found to make such comments, however, this reasoning remains somewhat specious. Indeed, because two

[113] For additional information regarding this claim, see the discussion on the communicative theme *Significant Others* (pg.197). To clarify, however, it remained unclear within the offender's transcripts whether their conversations with children could be classified as grooming and/or sexually explicit.

remaining MCOs and both ECOs[114] (also charged with producing IIOC) were not found to make such *Deviant*-related claims, any potential connections to CSOs' offending behaviours remains (relatively) tenuous. Nevertheless, it may be that claims of invading children's privacy (e.g., wearing their underwear) and/or engaging with children in public places can help investigators identify persons producing IIOC and/or sexually suggestive media. As such, future research would benefit from examining the possibility further.

Experiences

Next, with respect to the subtheme of *Experiences*, these messages detailed legal sexual acts/events, in which the messenger was (allegedly) involved, yet as a secondary party. Such comments were identified among just two MCOs, making the subsample too small to identify potential trends and/or relationships between the CSOs' offending histories and their *Experience*-related statements. Nonetheless, it is worth specifying that the majority of these comments referred to watching (but not engaging with) fellow CSDs, as they performed deviant (albeit legal) sexual acts online.[115]

In one instance, however, the offender of Case 10 also mentioned witnessing a sexual act in their childhood. Regrettably, owing to redactions around this post, it is unknown what comments prompted such claims. Nonetheless, this mention of witnessing a sexual act as a child warrants further consideration, as research has repeatedly linked sexual experiences in child to an increased risk of committing (contact) sexual offences in the future (see Ward & Beech, 2006). More specifically, persons who are abused as children may be more inclined to abuse in the

[114] To clarify, it was not revealed to the researcher whether the sample's contact offender knew their victim before the abuse or not.
[115] For details on comments which involve offenders engaging in sexual acts with fellow CSDs, see the discussion on *Sexual Partners* (pg.199).

future, in order to reestablish a sense of power (Ward & Beech). To this point, while the offender of Case 10 did not allege that they were abused, this same MCO also claimed to have raped a teenage girl (as detailed below). While no link between *Experience*-related comments and CSOs' offending histories can be established, therefore, future research would benefit from investigating the possibly further.

Offences

Shifting focus to the next subtheme under *Claims*, it was found that both of the study's LCOs, three of its MCOs and the convicted contact ECO professed to committing some manner of (physical) sexual offence. In response, the secondary theme of *Offences* was derived, along with the four tertiary themes of *Child Offences*, *Victim Access*, *Denials* and *Animal Abuse* (see Table 6.9). Regrettably, as previously noted, owing to limitations with investigators' knowledge and/or the details provided within CSOs' criminal records, establishing the veracity of offenders' claims and/or links to their criminal behaviour was not possible. As shall be explained, however, that is not to say that multiple observations of interest and/or importance were not found.

Table 6.9: Offence-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Claims	Comments regarding (unsubstantiated) acts, occurrences and/or events which the CSO contends to have taken place			-LCOs: 2,5 -MCOs: 3,4,7,10 -ECOs: 9
2	Offences	Allegations of the messengers' supposed involvement with illegal, sexual acts.			-LCOs: 2,5 -MCOs: 4,7,10 -ECOs: 9
3	Child Offences	Avowals about committing illicit activities against children.	'Played with her until she was 6 [years old]'	Detailing sexual abuse which the CSO asserts to have committed against the daughter of significant other.	-LCOs: 2,5 -MCOs: 4,10 -ECOs: 9

	Victim Access	Statements directly explaining and/or acknowledging the circumstances which assisted and/or allowed for the messenger to commit sexual offences.	'I was seeing this woman and she had a daughter'	Explanation given by offender, regarding how they had found a victim to sexually abuse.	-LCOs: 2 -MCOs: 7,4 -ECOs: N/A
	Denials	Assertions that the messenger has not committed certain unlawful activities.	'[I] never actually fucked her'	CSO expressing disappointment at have never having penetrated a female child with their penis.	-LCOs: 2 -MCOs: 3,4,7 -ECOs: N/A
3	Animal Abuse	Avowals about committing illicit sexual acts against animals.	'I still wank my dog'	Claim made by the CSO, when discussing in zoophilia/bestiality, that they masturbate their dog.	-LCOs: N/A -MCOs: 7 -ECOs: N/A

Child Offences

To start, it was found that both of the study's LCOs, two MCOs and the sample's contact offender claimed to have committed child sex abuse. In turn, said comments were grouped under theme of *Child Offences*. As reported within past studies (see Chapter 3), the prevalence of such claims indicates said comments to be common among typical CSD intercommunications. More specifically, regarding the sample analysed by the present study, it was found that both LCOs and one MCO professed to have committed contact sexual offences[116] and documented IIOC. According to WYP, however, the only charges and convictions against said offenders involved possessing, distributing, and/or producing indecent images. Alternatively, no equivalent claims of abuse were made by the study's remaining MCOs. As pertains to the sample's contact offender, moreover, it was found that they too commented on committing physical abuse (i.e., fellating and sodomising a 13-year-old male). Yet, unlike with less severe offenders who made similar claims, the ECO was convicted for such crimes. Ultimately, therefore, because only one

[116] In the case of the LCO, the offender claimed to have exposed himself to a toddler and ejaculated on the child's back. As for the MCO, the CSO claimed to have performed cunnilingus and ejaculated on a toddler and penetrated the vagina of an unconscious adolescent with his fingers.

third of CSOs who professed to committing contact sex offences were found guilty for such acts, claims of this nature were not deemed a reliable insight into confirmed offending behaviours.

With this said, one interesting distinction among CSOs' *Child Offence* claims is that the study's LCOs and MCOs expressed little to no emotion within their comments, instead referring to their victims as objects of arousal and/or desire. By contrast, the sample's contact CSO wrote of their crimes with a (arguably) romantic quality, describing their victim as a willing and eager partner—who, by the offender's account, enjoyed 'kissing' and 'cuddling'. Based on these descriptions, the contact CSO presents their victim as reciprocating various feelings of intimacy, such as fondness and/or 'love'. Naturally, this standalone observation does not suggest that romanticised claims of victimising children are indicative of contact offending tendencies. Moreover, due to the brevity of the ECO's chatlog (i.e., 50 words), in addition to this study's limited interpretation of comments' latent content, to make such generalisations would be specious. Nonetheless, this observation pertaining to romanticising remarks would benefit from future research and shall be revisited within this thesis.[117]

Victim Access

Next, in regards to the tertiary subtheme of *Victim Access*, it was found that some CSOs made claims about relationships they (supposedly) had with children, which gave them the opportunity to commit contact offences. To clarify, these comments do not include statements which tacitly/indirectly mention how the offender (supposedly) had access to a victim (i.e., 'I've licked my niece's pussy,' Case 4).[118] Instead, *Victim Access*-related comments expressly state

[117] See Section 8 within the present chapter and/or Sections 2 and 3 in Chapter 9 for further discussion.
[118] Although the CSO acknowledges a (supposed) means of accessing a victim within their family, because this information was indirectly conveyed the comment was categorised under the theme *Child offences.*

how an offender was (allegedly) able to access their supposed victim(s). As an example, it was found that the LCO of Case 2 stated: 'I was seeing this woman and she had a daughter.'[119] Beyond this, however, only two MCOs similarly detailed the nature of their relationship with (alleged) victims, including their stepdaughter, niece and neighbour. Given that access to victims is a key risk factor for predicting abuse (see Long et al., 2012; McManus et al., 2014) such comments are always advisable for police to investigate and/or priortise, especially if said statements are as scarce as indicated by this study's findings. Crucially, however, it must be emphasized that because *Victim Access*-related comments were only made by one LCO and two MCOs, no relationship between such comments and offenders' criminal histories were discerned. Moreover, it should be noted that each of the offenders who made *Victim Access*-related remarks did so, both when prompted by fellow CSDs and when not—with all comments reading as attempts to establish a presence within an ongoing discussion and/or build a rapport.

Denials

Continuing along a similar line of discussion as CSOs' claims of committing contact child sex offences, it was found that one LCO and three MCOs made claims of never having committed specific abusive acts. To clarify, it was observed that while the aforementioned LCO and one of the MCOs both claimed to have committed contact sexual abuse against the daughters of significant others, both offenders also alleged to have never raped the children. As such, these comments were classified under the tertiary subtheme of *Denials*, and would seem to be common (if not rife) within CSDs intercommunications. To this point, however, it is worth clarifying that the tone and context of these comments varied between offenders.

[119] Subsequently, the LCO claimed he would abuse the child when the victim's mother was absent.

In regards to the LCO, their *Denial*-related remarks were expressed with regret, meaning the offender seemed to wish that they had raped and/or further abused the daughter of their significant other. Moreover, such comments were elicited from the LCO when fellow chatroom users enquired if the offender had ever physically abused a child (in a sexual manner). By contrast, however, each of the three abovementioned MCOs' *Denial*-related comments came after they enquired whether fellow CSDs had ever committed contact child sex offences. As such, it may be that the MCOs were assessing the characters/authenticity of the persons with whom they were communicating and/or were looking for partners and/or resources to produce more illicit media. Without much data to interpret in relation to Cases 4 and 7, however, such observations remain speculative. Thus, in the future, examining the nature of CSDs' *Denial*-related comments may benefit from further research.

Animal Abuse

Last among the tertiary subthemes under the CSOs' *Offence*-related remarks—beyond claims of committing child sex abuse—was the finding that one MCO professed to performing oral and/or masturbatory acts with a dog. As such, these comments were classified under the subtheme *Animal Abuse*, and were all made in attempt to exchange images and/or videos of such nature. To this point, previous research has found animal abuse to be a risk factor for committing contact child sex offences (see Levitt, Hoffer & Loper, 2016). Importantly, however, at no point did this MCO (i.e., Case 7) also allege to have committed contact child sexual offences. In fact, although the subject mentions having access to potential victims (i.e., their daughter's friends), they also deny ever having directly/personally abused the children (physically or non-physically). Thus, while the aforementioned MCO's claim (partially) contradicts their offending

history, such comments should nonetheless remain noteworthy to investigators when assessing potentially dangerous persons.

Adult Relationships

To conclude this section's review of *Claims*-related comments, the final secondary theme of this category was determined to be *Adult Relationships.* As the title implies, comments within this subtheme refer to statements which directly address the nature and/or existence of (sexual) relationships which CSOs claims to have with adults. Overall, however, such comments were not found to be prevalent among CSOs' transcripts. In total, only one LCO and two MCOs made *Adult Relationship* statements. Interestingly, in McManus et al. (2015), it was found the non-contact offenders mentioned adult relationships significantly more than contact offenders (see Chapter 3). Due to disproportionate samples of contact (n=1) and non-contact CSOs (n=9) for this study, however, it can only noted the abovementioned findings remain consistent with McManus et al.'s study. Additionally, it is also worth clarifying that the majority of *Adult Relationship* comments within this study's sample originated from its two longest chatlogs (i.e., Cases 2 and 3: 2,516 and 10,157 words, respectively). Because police are inclined to retain only CSOs' most incriminating statements (opposed to their complete communications), it may be that such practices account for this sample's rarity of *Adult Relationship* comments. Nonetheless, in the end, three tertiary themes were derived from this subcategory

Table 6.10: Adult Relationship-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Claims	Comments regarding (unsubstantiated) acts, occurrences and/or events			-LCOs: 2,5 -MCOs: 3,4,7,10 -ECOs: 9

		which the CSO contends to have taken place			
2	Adult Relationships	The identification and/or description of persons whom the messenger is and/or was involved with or connected to in some manner with sexual elements.			-LCOs: 2 -MCOs: 3,4 -ECOs: N/A
3	Significant Others	Comments on individuals whom the messenger is and/or was romantically and committedly involved with.	'You see my mrs tits'	Comment made by CSO after sharing nude images of (alleged) wife.	-LCOs: 2 -MCOs: 3,4 -ECOs: N/A
	Sexual Partners	Statements concerning strictly physical and/or sexual companions whom the messenger was and/or is legally involved with.	'I was wanking with some guy and he kept wanking me'	Comment regarding interactions (i.e., masturbation) with a fellow adult male.	-LCOs: N/A -MCOs:4 -ECOs: N/A
3	Confederates	Platonic relationships specified by the messenger as conduits for (better) accessing and/or acquiring sexual stimuli or victims.	'Had a good one a while ago but he's not live at the moment. He had lots of links'	Referring to an anonymous individual who helped offender to procure IIOC.	-LCOs: 2 -MCOs: 4 -ECOs: N/A

Significant Others

Firstly, as touched upon earlier, within offenders' claims of performing criminal and non-criminal sexual acts, several CSOs make indirect references to romantic partners, such as girlfriends and wives. Crucially, however, because these comments do not directly discuss the CSOs' (alleged) partners, these comments were not classified under the theme of *Significant Others*. For example, one MCO wrote: 'I'm wearing wifes (sic) holdups and step-daughters (sic) thong.' Herein, the offender's wife is referenced, yet is not the main focus of the sentence. Moreover, even if the MCOs' (alleged) wife was not mentioned, the offenders' claim of a having a step-daughter implies that the offender is/was romantically involved with another adult. In this

instance, however, the statement was classified under the theme of *Non-offences*, as the focus is on deviant but legal sexual acts.

As result, in the end, only one LCO and two MCOs were found to directly discuss their (alleged) romantic partners. Much like was indicated within McManus et al.'s (2015) study, therefore, these findings suggest such comments are not particularly common within CSDs intercommunications. However, because this study only analysed statements of a sexual nature, all *Significant Others*-related statements entail CSOs discussing their (supposed) partners in a sexual manner. [120] To clarify, both the LCO and the two MCOs were found to describe sexual acts they performed with their girlfriends and wives and/or comment on sexual images of the woman, when shared while discussing the CSO's sexual proclivities or exchanging IIOC. Interestingly, however, in regard to the MCO of Case 4, the offender's comments also read as if they were bragging about their significant other. When directly discussing their wife, the MCO would comment on the size of the woman's breasts and ask fellow CSDs if the noticed and/or appreciated her appearance.

Ultimately, due to both the rarity of *Significant Others*-related statements and the fact that such comments were made by LCOs and MCOs, no relationship was ultimately noted with offence histories. Even so, given that McManus et al. (2015) found non-contact offenders to mention adult (sexual) relationships significantly more than contact CSOs, this communicative theme deserves future research. If it is established that the discussion and/or mention of such subjects significantly relates to non-sexual offenders, this information could benefit investigators when assessing the risk of child sex discoursers.

[120] It is important to clarify that every comment directly regarding CSOs' romantic partners was sexually themed, in some manner, and were, therefore, all accounted for and classified under *Adult Relationships*.

Sexual Partners

Building off the abovementioned point, in addition to discussing significant others, it was found that the MCO of Case 4 claimed to have engaged in (purely) sexual acts with another adult. As such, the subtheme of *Sexual Partners* was derived. To clarify, the offender in question alleged to have masturbated with another adult male and shared details of this occurrence as if they were an amusing anecdote, prompted by fellow CSDs remarks regarding masturbation and/or ejaculate. However, it should be clarified that based on the manifest and latent content of the MCOs' statement, there was no indication that they and the fellow adult male were viewing IIOC at that exact time of their sexual act. As such, with only one CSO within this study's sample to make *Sexual Partner*-related claims, this would suggest such comments are relatively uncommon among CSDs' electronic communications. Moreover, no relationship between said statements and individuals' offending categories/histories was noted. Because such comments refer to adult sexual relationships and were made by a non-contact offender, however, this observation remains consistent with McManus et al.'s (2015) statistically significant finding.

Confederates

With regards to the final tertiary theme under *Adult Relationships,* it was found that one LCO and one MCO (also) discussed (alleged) accomplices and/or associates involved in their offences. As such, comments of this nature would not appear to be common among CSDs' general communications. Nonetheless, from the abovementioned messages, the thematic category of *Confederates* was derived. Focusing fist on the LCO, it was found that the offender would matter-of-factly state that a fellow CSD (supposedly) assisted them acquire IIOC. Whether or not this (alleged) confederate aided the LCO acquire the illegal media for which the offender was ultimately charged is unknown. Given that the LCOs' sole convictions involved

acquiring and possessing IIOC, however, it may be that their *Confederate*-related comments are indicative of (at least some of) their criminal behaviour. However, to this point, it is worth noting that none of the study's remaining nine CSOs (all convicted of possessing and/or distributing IIOC) made (overt) claims of having accomplices for such offences. Yet, uncommon as they proved, this is not to say additional *Confederate*-related comments were not made.

In the case of the abovementioned MCO, the offender alleged to go to public locations with his wife, where the woman would approach children to strike up conversation (i.e., 'Yes, she [CSOs' wife] even chatted them [children] up in our local swimming pool').[121] What is more, the offender implied his (alleged) wife might be willing to participate more directly in contact abuse (i.e., 'My mrs (sic) encouraging them [children] to suck us').[122] Although, it is unknown if the CSO (or their wife) ever committed physical offences. Yet, given that MCO was convicted of producing IIOC, it might be that their (supposed) spouse aided in such efforts. While no relationship between *Confederate*-related statements and CSOs' offender categories was identified, therefore, comments of this nature nonetheless warrant research in the future.

Section 5: Fantasies and subthemes

Theme 4: Fantasies

Under the higher-order themes of *Sexual Interests* and *Claims,* this study categorised all comments which expressly acknowledged what stimuli CSOs found sexually arousing, or which directly addressed (allegedly true) sexual acts, events and/or relationships. Crucially, however, in

[121] To this point, it is crucial to recognise that such comments can arguably be categorised under the subtheme of *Significant Others*. However, as previously stated, not all thematic categories herein are mutually exclusive.

[122] To clarify, the abovementioned comment is regarding the MCO's wife allegedly encouraging children fellate the offender was considered part a fantasy and categorised accordingly.

regard to both of the aforementioned thematic categories, no comments which read as CSOs actively engaging with their imaginations were included. Instead, such demonstrations of imaginations were considered distinct and, therefore, warranted their own higher-order theme. While it is recognised that sexual interests and incriminating confessions can be obscured when framed/phrased as fictitious,[123] the conscious and/or explicit use of imagination to detail sexual acts, events, proclivities and/or relationships which offenders desired (to some extent) to be reality were ultimately classified under primary theme of *Fantasies* and three second-tier categories (see Table 6.11). Interestingly, however, despite anticipating *Fantasy*-related comments to be rife within and across most CSOs' chatlogs, this did not prove to be the case.

Table 6.11: Fantasies-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Fantasies	Comments which detail the CSOs conscious engagement with their imagination to experience genuine affective responses pertaining to (seemingly) hypothetical/ fictitious scenarios.			-LCOs: 2 -MCOs: 3,4,8 -ECOs: 9
2	Improvisations	The organic and dynamic exchange of thoughts involving elicit, hypothetical acts or scenarios which derive from specific inspiration (e.g., comments and/or media).	'Maybe you could hold one down whilst i (sic) fuck her.'	Written in relation to a female victim depicted in IIOC.	-LCOs: 2 -MCOs: 3,4,8 -ECOs: 9
2	Narrations	Commentary on and/or exposition of fictious events which describe and/or depict the occurrence as if telling a story.	'I would… fuck her face…then suck on her tights…then fuck her through them. I would make	A lengthy and graphic description of the actions which the CSO desired to perform (hypothetical) female children.	-LCOs: N/A -MCOs: 4 -ECOs: N/A

[123] As previously discussed, Holt et al. (2010) reported some CSDs to use mitigating statements (e.g., 'I had a dream last night', pg.15) to obscure what might otherwise be confessions to deviant or illegal acts (see Chapter 3).

			her friend watch…'		
2	Urges	The conceptualisation of desired occurrences and/or opportunities, without comments expressing envy or actively pursuing the desired scenario and/or opportunity.	'I want to go to the philippines (sic) and pay a mum to let me fuck her daughter.'	Comment made when discussing (seemingly) hypothetical ambitions and/or plans to commit contact offences.	-LCOs: 2 -MCOs: 4 -ECOs: N/A

Improvisations

Beginning with the most basic and prevalent example of CSOs' *Fantasy*-related comments, *Improvisations*, it was found that one LCO, three MCOs and the sample's convicted contact ECO each invented fictitious scenarios inspired by sexual stimuli (e.g., videos, pictures, comments, etc.). To clarify, these fantasies read as spontaneous and/or undeveloped fictions and were found to be relatively brief (e.g., short sentences)—just detailed enough to convey vague the offenders' imaginings (i.e., 'Maybe you could hold one [teenage girl] down whilst I fuck her'). Yet, to this point, when the abovementioned offenders would make such remarks to contribute to group fantasies,[124] it is recognised that terse comments could accumulate to construct more elaborate fantasies. Because such comments were still spontaneous and/or inspired by external stimuli, however, they were classified under *Improvisation*.

With all this said, because examples of *Improvisation* were found within the transcripts of one LCO, three MCOs and the contact ECO, no relationship between the presence of such statements and offenders' criminal histories were observed. To some extent, therefore, this lack of an apparent connection is revealing—in that the finding does not appear to support the theory of *harm causation,* which proposes that repetitive fantasising can incite criminal behaviour by escalating sexual proclivities (McCarthy, 2010). Pragmatically speaking, such knowledge might

[124] Herein defined as: *fantasies involving two or more contributors.*

benefit investigators, if studies can establish whether the presence of *Improvisation*-related statements (which police might normally deem concerning and/or give precedent) are not reliable indicators of risk. However, given that all the subject of this study's sample are offenders of some nature, this consideration requires further research.

In addition, upon considering the latent content of *Improvisation*-related comments, several nuances in tone were found. With regard to the abovementioned LCOs and MCOs, the offenders' improvised fantasies would alternate perspectives between themselves and fellow CSDs. Curiously, however, the sample's contact ECO would adopt the view of (imaginary) victims. This observation is potentially revealing, considering the fact that this offender alone was also found to romanticise sexual acts with children (see pg.193). As such, while *Improvisation*-related comments appear to mildly prevalent within CSDs intercommunications, it may be that child sexual fantasies which adopt the perspective of victims and/or which present abuse as romantic or enjoyable to the children are indicative of persons with less inhibition when it comes to committing said offences. Given that this observation only pertains to one offender, however, it remains a theory for future studies.

Narrations

Based on previous research into sexual fantasies on chatrooms (e.g., Young 2001; 2008; 2010), it was anticipated that this study would find CSOs to share detailed descriptions and/or expositions of hypothetical sexual scenarios, without requiring (direct) inspiration from external stimuli. In theory, these comments would read akin to reports or stories, providing sequential details and suggesting previous consideration from the fantasier. As expected, comments of this nature were found among WYP's sample and thusly categorised under the secondary subtheme

of: *Narrations.* Surprisingly, however, rather than finding well-developed fantasies to be prevalent among CSOs, it was observed that only one MCO expressed *Narration*-related fantasies, and only on occasion. When lengthy and/or expositional fantasies were shared, the offender would describe scenarios in step-by-step accounts of how occurrences would ideally develop and would often incorporate details of sexual interests mentioned in other CSDs' (unrelated) posts. In one instance, the MCO even sought permission to include descriptions of another chatroom user's child, writing: 'I wont (sic) say anything sexual as its (sic) your daughter.' Owing to these remarks, while the MCO's *Narration*-related fantasies did not require external stimuli, the descriptions read as if they were intending to build rapport and assess the nature of fellow chatroom users, as well as derive sexual pleasure.

Ultimately, however, as curious as this latter observation is, this study's sample would suggest that *Narration*-related fantasies are not prevalent among CSO's general intercommunications. To this point no relationship between such fantasies and CSOs' criminal tendencies could be established. Nonetheless, it is notable that the MCO who shared *Narration*-related fantasies also claimed to have committed contact child sexual offences (see pg.191). Thus, future research would benefit from exploring these observations further.

Urges

Finally, with regards the last subtheme under *Fantasy*-related remarks, analyses revealed that one LCO and one MCO made comments which not only conceptualised fictitious events and/or actions, but also expressed an overt desire and/or intent to make said fantasies reality. To clarify, in no instance was either of the abovementioned offender found to be taking active plans to achieve said fantasies. Yet, even so, both CSOs discussed how their fantasies could be attempted. In turn, such comments were classified under the secondary theme of *Urges.*

Given the concerning nature of *Urge*-related comments, upon identifying the theme, it was expected that said would be made by the sample's ECOs. Ultimately, however, this did not prove true. Moreover, it was found that the *Urge*-related comments of the MCO pertained exclusively to fantasies about fictious children while the LCO wrote about (subjectively) more concerning fantasies involving their toddler-aged niece (in addition to abusing fictious children). In addition to appearing relatively rarely within CSDs' general intercommunications, therefore, no relationship between *Urge*-related statements and CSOs' offender categories were identified

With all this said, it is also worth confirming that both of the aforementioned CSOs were found to have made (unsubstantiated) claims about committing contact child sex offences. Thus, there is cause to wonder if the CSOs had already committed the acts detailed within their *Urge*-related comments, yet were cautious about admitting so. Within Holt et al., (2010), CSDs were reported to seemingly attempt to obscure incriminating assertions with mitigating statements (i.e., 'I had a dream last night' pg.15). As such, it could be similar attempts were by the LCO and MCO previously mentioned; although, their accompanying claims of committing contact offences undermines this conclusion.

Section 6: Pursuits and subthemes

Theme 5: Pursuits

As recently reviewed, among CSOs' fantasies, several offenders made remarks specifying sexual acts and/or events which they wished to make a reality. However, by themselves, these comments (seemingly) did nothing to bring said fantasies to fruition. In turn, a distinction was made for statements which were found to actively attempt to achieve a specific aim and/or outcome. Categorised within the higher-order theme of *Pursuits*, these comments were found to be made each CSO within the study's sample, and ultimately yielded two

secondary themes and five tertiary themes, defined below (see Table 6.12). In the end, therefore, statements of this nature appear to be a common and diverse feature of CSDs' general dialogue.

Table 6.12: Pursuits-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Pursuits	Statements made as part of the messenger's active efforts to achieve an aim.			-LCOs: 2,5 -MCOs:3,4,6,7,8,10 -ECOs: 1,9
2	Stimuli	Requests, enquiries and/or ploys for material or actions which the messenger finds sexually arousing.			-LCOs: 2,5 -MCOs:3,4,6,7,8,10 -ECOs: 1
3	Media	Seeking and/or exchanging photos, drawings, and/or non-interactive videos (i.e., either previously recorded or transmitted in real-time).	'Do you have any young Asian pics (sic)?'	Request for IIOC depicting females of Asian descent.	-LCOS: 2 -MCOs:3,4,6 -ECOs: N/A
	Interfacing	Attempts to access and/or engage with persons in live videos, wherein subjects interact with the audience—excluding attempts to influence fellow CSDs, as defined under *Encouragement.*	'I will show naked here until you cum hard, but can u (sic) do me favour first to send me fifteen as a gift on via pay[p]al'	Offender offering to expose themselves to a fellow CSD in exchange for monetary payment.	-LCOs: N/A -MCOs: 3,4 -ECOs: 1
3	Encouragement	Approval or advice offered to goad others into performing sexual acts—excluding requests to share of explicit media.	'Go find her mucky knickers to spunk on'	Goading a fellow CSD to ejaculate onto a pair of their teenage stepdaughter's underwear.	-LCOs: 2,5 -MCOs: 3,4,6,7,8 -ECOs: 1
2	Rapport	Attempts to establish interpersonal connections for the sake of company—excluding remarks to establish trust and/or identify undercover investigators.			-LCOs: 2, 5 -MCOs: 3,4,7,8,10 -ECOs: 9

3	Curiosity	Enquiries about fellow CSDs' sexual life proclivities and/or activities.	'Are you bi[sexual]?'	Offender discussing sexual orientation with a fellow CSD.	-LCOs: 2, 5 -MCOs: 3,4,7,8,10 -ECOs: 9
	Courting	Efforts to foster romantic feelings within fellow (supposed) adults.	'You have lovely breasts.'	Comment made to a (presumed) adult female.	-LCOs: N/A -MCOs: 3 -ECOs: N/A

Stimuli

With regards to the most evident and (ostensibly) prevalent[125] *Pursuit*-related comments, it was found that the two LCOs, five MCOs and the ECO's child sex groomer made requests, enquiries and/or ploys for material or actions which they found sexual arousing. Resultantly, comments of this nature were classified under the secondary theme of *Stimuli*; and, upon review, yielded three tertiary subthemes (see Table 6.13). Moreover, when such comments' latent content was further considered additional observations were noted. As such, each of the subthemes relating to *Stimuli*-related comments shall be critically examined.

Table 6.13: Stimuli-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Pursuits	Statements made as part of the messenger's active efforts to achieve an aim.			-LCOs: 2,5 -MCOs:3,4,6,7,8,10 -ECOs: 1,9
2	Stimuli	Requests, enquiries and/or ploys for material or actions which the messenger finds sexually arousing.			-LCOs: 2,5 -MCOs:3,4,6,7,8,10 -ECOs: 1
3	Media	Seeking and/or exchanging photos, drawings, and/or non-interactive videos (i.e., either previously recorded or transmitted in real-time).	'Do you have any young Asian pics (sic)?'	Request for IIOC depicting females of Asian descent	-LCOS: 2 -MCOs:3,4,6 -ECOs: N/A
	Interfacing	Attempts to access and/or engage with persons in live	'I will show naked here until	Offender offering to	-LCOs: N/A -MCOs: 3,4

[125] Owing to redactions made to CSOs' transcripts by investigators and the researcher, the term 'prevalent' is being used herein to denote comments' relative abundance and/or frequency. However, no exact tally of thematic categories was attempted, as doing so was determined to be misleading.

		videos, wherein subjects interact with the audience—excluding attempts to influence fellow CSDs, as defined under *Encouragement.*	you cum hard, but can u (sic) do me favour first to send me fifteen as a gift on via pay[p]al'	expose themselves to a fellow CSD in exchange for monetary payment.	-ECOs: 1
3	Encouragement	Approval or advice offered to goad others into performing sexual acts—excluding requests to share of explicit media.	'Go find her mucky knickers to spunk on'	Goading a fellow CSD to ejaculate onto a pair of their teenage stepdaughter's underwear	-LCOs: 2,5 -MCOs: 3,4,6,7,8 -ECOs: 1

Media

As could be expected, based on previous research (e.g., Holt et al., 2010;[126] McManus et al., 2015), among offenders' *Pursuit*-related comments, it was found that CSOs would make attempts (successful and not) to acquire and/or view images and videos depicting children, usually of a sexually explicit nature. Given the nature of said comments, these statements were classified under the tertiary theme of *Media* and were observed within the transcripts of one LCO, three MCOs and the study's child sex groomer. By and large, within each aforementioned CSOs' chatlogs, these *Media*-related remarks were ultimately found to entail blunt requests for such stimuli. To this point, it is important to iterate, that all offenders within WYP's sample were convicted of possessing images depicting the severest ranked content, based on the levels of the Sentencing Guidelines Council (2007) (see Appendix A). Consequently, no discernable relationship between CSOs' *Media*-related remarks and their offending categories was identified.

This being said, it is worth noting that the MCO of Case 3 used multiple tones and/or tactics to acquire explicit media, including: begging, flirting, praising, 208riticizing, blackmailing and pretending to be female. By contrast, the study's remaining sample largely

[126] For clarification, Holt et al.'s (2010) study notes that on (some of) the chatrooms they examined, CSDs would rebuke individuals for enquiring about IIOC, out of concern for legal repercussions.

alternated between direct requests and describing what media they desired. Unfortunately, several of the aforementioned MCO's assorted approaches proved difficult to analyse, both in regards to manifest and latent content, due to redactions in the comments of the offender and fellow CSDs. To this point, it is unknown if the MCO was utilising multiple profiles on several occasions, such as when pretending to be a female. With a larger sample, however, it could prove beneficial for future research to examine whether the tactics/tones of CSOs' *Media*-related remarks could reveal more about CSD chatroom culture and/or prove beneficial to assessing CSDs' risk levels.

Interfacing

Similar in some respects to offenders' request for sexually explicit videos, it was found that two MCOs and the groomer ECO sought to verbally and visually engage with others online for sexual gratification. Because such comments focused more on the excitement of interactions, rather that requests for specific stimuli/content, statements of this nature were classified under the tertiary theme of *Interfacing.* Within these exchanges, the aforementioned offenders would comment on the actions of fellow CSDs (often offering approval), perform sexual acts for payment and/or others enjoyment and express interest/make plans to speak again. In effect, therefore, these interactions served to build rapport, establish trust, achieve sexual gratification, and receive approval and/or monetary rewards. Given that said *Interfacing* statements were only made by three of the study's offenders, however, such comments would appear to comprise a relatively small fraction of CSDs' general communications.

In addition, because all examples of *Interfacing* were observed among MCOs and the groomer ECO, this finding could suggest that a willingness to engage in sexual videocalls with others online is (more) indicative of persons/CSDs' who are inclined to produce IIOC or interact

(maliciously) with underage individuals. However, with four of MCOs and the study's sole contact offender not found to engage in *Interfacing* or enquire about participating in such interactions, this observation requires additional examination with a larger sample. To this point, it is noteworthy that the MCO who used various tactics and tones in their *Media*-related requests (i.e., Case 3) also begged, flirted, praised and criticised when seeking to interactions online.

Encouragement

Finally, moving on to the last tertiary subtheme of *Stimuli*-related remarks, it was found that beyond requesting sexual media and/or (virtual) interactions, offenders would also attempt to influence CSDs into performing and discussing various sexual acts, such as committing contact and non-contact child sex offences. Given the unique nature of said statements, the study classified attempts to influence CSDs under the subtheme of *Encouragement*. In total, both LCOs, five MCOs and the groomer ECO were noted to make such remarks. From these results, it would appear that *Encouragement*-related comments are rife within CSDs' intercommunications. Amongst the CSOs identified above, however, distinctions within the tactics and tones of their *Encouragement*-related remarks were found.

To clarify, it was found that when both LCOs attempted to influence fellow CSDs, they would employ subtle and/or indirect suggestions whilst acknowledging the desired effect. For example, when communicating with a CSD who claimed to be a teenage male, the LCO of Case 2 remarked how envious they were of the (alleged) teenagers' access to female classmates and expressed a desire for pictures.[127] Additionally, when enquiring if a fellow CSD has ever visited a specific IIOC-hosting website, the LCO of Case 5 proceeded to laud the site and comment

[127] It is recognised that the abovementioned instance of an LCO encouraging an alleged adolescent to take pictures of schoolmates may demonstrate attempts at grooming. Given the brevity of their exchanges, however, it was deemed more accurate to categorise the interaction under the theme of *Encouragement*.

about disseminating its contents. By contrast, the five MCOs and the sample's child sex groomer were found to be blunt and/or demanding with their *Encouragement*-related remarks, instructing fellow CSDs to masturbate into their daughter's underwear, rape the friends of their children or sexually abuse a dog and then discuss the experiences.

Taken together, these observations could suggest that the tactics which offenders employ within *Encouragement*-related remarks relates to the severity of their offending histories and/or tendencies. However, upon further consideration, an alternative explanation may be owed to the fact that both of the LCOs' conversations occurred exclusively with CSDs whom they had (evidently) not communicated with before. Alternatively, with respects to the aforementioned MCOs and ECO, the offenders were communicating with individuals they knew to different degrees (e.g., friends, acquaintances and strangers). Thus, the dynamic between the sample's offenders and fellow CSDs may have impacted what tactic and/or tone the adopted within their *Encouragement*-related remarks. This observation, therefore, would benefit from future research.

Rapport

Shifting focus to the remaining secondary theme under the primary category of *Pursuits*, it was found that both LCOs, five MCOs and the sample's contact ECO sought to acquire more than sexual stimuli and/or amusement from fellow CSDs. Although all comments analysed for this study were sexual in nature, it was also observed that the abovementioned offenders sought to foster interpersonal connections with CSDs (mostly online). As discussed within Chapter 2, Reis and Shaver's (1988) *intimacy model of friendship* notes that by disclosing personal information and receiving or offering supportive responses (i.e., *self-revelation*), individuals and form significant interpersonal bonds. For these reasons, chatrooms are now recognised as *virtual*

back places (see Goffman, 1963): where subcultures can disregard social stigmas to find information, advice and kinship in generally supportive environments (Durkin, et al., 2006; Quinn & Forsyth, 2005; Song, 2002). While engaging with sexual interests and attitudes electronically/online, therefore, chatrooms users report experiencing less negative emotions and more positive emotions among likeminded persons (Young, 2008; 2010). As such, in relation to the present study, it may be that even while discussing sexual content, a majority of WYP's sample, attempt to foster a sense of comradery and/or intimacy.

Based on the abovementioned rationale, it was determined that all comments which read as attempts to establish interpersonal connections for the sake of company (more so than sexual content or gratification) would be categorised together under the secondary theme of *Rapport*. From among such comments, moreover, a total of two tertiary themes were identified (see Table 6.14), each providing numerous insights. Indeed, given the prevalence and diversity of classifiable *Rapport*-related remarks, it is reasonable to reaffirm that such comments are popular within CSD' general dialogue.

Table 6.14: Rapport-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Pursuits	Statements made as part of the messenger's active efforts to achieve an aim.			-LCOs: 2,5 -MCOs:3,4,6,7,8,10 -ECOs: 1,9
2	Rapport	Attempts to establish interpersonal connections for the sake of company—excluding remarks to establish trust, identify undercover investigators and/or enquire about others' IIOC collections.			-LCOs: 2, 5 -MCOs: 3,4,7,8,10 -ECOs: 9
3	Curiosity	Enquiries about fellow CSDs' sexual life proclivities and/or activities.	'Are you bi[sexual]?'	Offender discussing sexual orientation with a fellow CSD.	-LCOs: 2, 5 -MCOs: 3,4,7,8,10 -ECOs: 9

	Courting	Efforts to foster romantic feelings within fellow (supposed) adults.	'You have lovely breasts'	Comment made to a (presumed) adult female.	-LCOs: N/A -MCOs: 3 -ECOs: N/A

Curiosity

Accounting for the vast majority of *Rapport*-related remarks, it was found that both LCOs, five of MCOs and the contact ECO all enquired about the sexual lives, act and/or interests of fellow CSDs. Accordingly, the tertiary theme of *Curiosity* was developed. To this point, it should be noted that most *Curiosity*-related remarks were made during an exchange of questions and answers between the sample's CSOs and previously unacquainted CSDs. In most instances, therefore, the aforesaid LCOs and MCOs (apparent) attempts to build rapport remained fairly superficial (within the context of discussing sexual matters). Interestingly, however, it was found that the study's contact offender asked more insightful queries.

To clarify, when discussing details about physical offences, the contact ECO would inquire not only about what acts a fellow CSD (allegedly) performed, but also how the acts made the CSDs and their (supposed) victim feel. In so doing, the ECO would also remark on their own emotional response, as well as their victims', in attempts to compare and contrast. During these exchanges, so too would the ECO offer approval and/or supportive responses to the fellow CSDs' sexual preferences/offences, thereby demonstrating exchanges akin to those describes by Reis and Shaver's (1988) intimacy model of friendship. Additionally, from the gratification the ECO expressed during such exchanges, their *Curiosity*-related remarks also read as tantamount attempts to vicariously experiencing the offences being discussed.

With this said, it is also worth clarifying that the ECO's comments consistently read as if conversing with an individual whom they had communicated with previously. By contrast, the abovementioned LCOs and MCOs' *Curiosity*-related remarks read as if they were messaging

strangers. In the end, therefore, owing to this difference and because the limited observations able to be drawn from one contact offender's communications, no distinctions between CSO's *Curiosity*-related remarks and their offender categories could be discerned. Given the differences noted above, however, future research would benefit from investigating the observations further.

Courting

Second among the two subthemes derived from *Rapport*-related remarks, it was found that one MCO among the study's entire sample shared comments which the researcher classified under the secondary theme of *Courting*. Put simply, such statements relate to the offender's efforts to foster romantic feelings within fellow (adult) chatroom user. Throughout their (exceptionally long) chatlog, the MCO of Case 3 held numerous, in-depth conversations with an individual claiming to be a woman in Spain. Predictably, at times, these exchanges were sexual in nature. Although, to that point, always were the comments flirtatious, complimentary and/or respectful. Relatedly, it is worth noting that rarely did the subject of child sexual interest arise; and, when it did, the topic was only briefly and/or indirectly discussed.

With all this said, while there is little which can be gleaned from one MCOs' *Courting*-related remarks, what makes the observation important is that it does not contradict McManus et al.'s (2015) finding that non-contact CSOs make adult (sexual) comments significantly more than contact offenders. Thus, it may be that comments from CSDs which attempt to foster adult (sexual) relationships for the of purpose intimacy/company would prove more common among non-contact offenders, if able to be researched further. However, even by itself, this observation serves to help build a synthesis of data and insights into the research area.

Section 7: Caution and subthemes

Theme 6: Caution

In addition to the sexually-charged communications examined thus far, this study's analyses also observed comments of a less direct, yet unambiguous, sexual nature. Previously, in their study on child sex chatrooms, Holt et al. (2010) noted that CSDs would regularly discuss matters of child sexual legislation and/or public investigations. Interestingly, within this study's sample, no offender was noted to discuss these aforementioned topics. However, in the case of one LCO and four MCOs, the offenders were found to make similarly vigilant comments, related to hiding their sexual interests and/or crimes. As such, these statements would appear to be typical (if not prevalent) within CSDs' general intercommunications and were grouped under the primary category of *Caution*. From there, closer inspection produced two secondary themes, entitled *Secrecy* and *Security* (see Table 6.15).

Table 6.15: Caution-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Caution	Statements pertaining to motives and/or means for keeping personal identities, sexual interests and/or sexual activities unknown to others.			-LCOs: 2 -MCOs: 3,4,7,10 -ECOs: N/A
2	Secrecy	Recognition of the importance to keep compromising information undisclosed and/or private.	'Need to be quiet. People upstairs'	Referring to family members within the household, when asked to masturbate via a video call with a fellow CSD.	- LCOs: 2 -MCOs: 3,7,10 -ECOs: N/A
2	Security	Comments on safeguards and/or actions taken to avoid or thwart the discovery and/or exposure of legally compromising information.	'I had to delete it unfortunately'	Offender claiming they purged their IIOC collection in order to avoid and/or thwart police investigations.	-LCOs: 2 -MCOs: 3,4,7,10 -ECOs: N/A

Secrecy

Firstly, in relation to the theme of *Secrecy,* one LCO and two MCOs were noted to make remarks which addressed the importance of keeping one's (deviant) sexual interests, behaviours and/or materials private. To clarify, with respects to the LCO, the offender was found to make vague comments pertaining to the general risks of expressing and/or indulging in child sexual interests. Similarly, it was observed that the MCO of Case 7 showed caution about posting on a chatroom while their daughter was home, and later enquired if a fellow CSD was alone when they spoke. In regards to the MCO of Case 10, the offender expressed concern over having their child sexual interests discovered, yet only after finding that their accounts on websites they used to share IIOC were locked.

Taken together, no relationship between *Secrecy*-related comments and CSOs' offending categories were found. While it should be noted that the abovementioned offenders were also convicted of distributing and/or producing IIOC—and may, therefore, have been more familiar with the risks of sharing deviant and/or illicit messages online than other CSDs—the remaining offenders within this study's sample were similarly convicted of distributing, possessing and/or producing IIOC, yet were not found to have *Secrecy*-related remarks in their chatlogs. Thus, additional research is warranted.

Security

Next, beyond general *Secrecy*-related remarks, it was found that one LCO and four MCOs commented on specific actions which they took to avoid investigations and/or prosecution. In turn, comments of this nature were grouped under the second-tier theme of *Security*. More specifically, it was found that the LCO of Case 2 discussed purging their IIOC collection in attempts to evade detection from law enforcement and (falsely) claimed not to share

IIOC online, in case they were communicating with undercover police. In comparison, the MCOs were found to refuse providing personal information to protect their identity and would insist that fellow CSDs be the first to share IIOC, in order to verify they were not police. Ultimately, however, no relationship between *Security*-related comments and CSOs' offender categories was noted, due (potentially) to the following factors: 1) dissimilar degrees of concern between one-to-one (i.e., Cases 7, 8, 6, 9) and group (i.e., Cases 1, 2, 3, 4, 5, 10) conversations, 2) unequal levels of technological awareness, 3) differing incentives to take precautions (i.e., family, employment, past experiences with police) and 4) redactions in transcripts.[128]

***Section 8*: Justifications and subthemes**

Theme 6: Justifications

To conclude this chapter's review of themes within CSOs' intercommunications, it is important to once again acknowledge that several previous studies have reported CSOs and/or CSDs to often attempt mitigating the seriousness of child sex abuse through specious logic, misappropriated research and biased world views (i.e., Cockbain et at., 2014; Lambert & O'Halloran 2008; O'Halloran & Quale, 2010; Malesky & Ennis, 2004). Bearing this in mind to better assess the manifest and latent content of CSOs' chatlogs, this study's analyses identified multiple examples of *cognitive distortions* [129] and/or *techniques of neutralisation*[130] within its sample. As such, these comments were used to develop higher-order theme of *Justifications*,

[128] To the abovementioned points, it should also be noted that each offender who made *Security*-related remarks also acted in ways which they criticised as being reckless (e.g., being the first to share IIOC).
[129] Cognitive distortions: beliefs, assumptions and/or self-statements which help to allay, rationalise and justify aberrant thoughts and/or behaviours (Bandura, 1977), see pg.61.
[130] Techniques of neutralisation: methods by which individuals temporarily suppress/ignore certain morals which would inhibit them from performing deviant acts: 1) Denial of responsibility, 2) Denial of injury; 3) Denial of victim; 4) Condemning the condemners: 5) Appeal to higher loyalties (Sykes & Matza, 1957), see pg.61.

from which three secondary themes (see Table 6.16) were subsequently derived. To this point, however, it is worth clarifying that between the one LCO, the one MCO and the contact ECO who made *Justification*-related remarks, it was the MCO who was almost solely responsible. Ultimately, therefore, these findings suggest that *Justification*-related comments are likely not as prevalent within CSDs' general communications as anticipated. Nonetheless, while this lack of *Justification*-related comments does not indicate a correlation between such remarks and offending histories, because *dysfunctional schemas*[131] (e.g., cognitive distortions and/or techniques of neutralisation) are a known risk-factor for contact offending (see Ward and Beech, 2006), the present communicative themes remain crucial to review.

Table 6.16: Justifications-related themes and subthemes

Tier	Themes	Definition	Example	Context	Offender/Case number
1	Justifications	Beliefs, assumptions and/or assertions expressed to allay and/or defend deviant thoughts and/or behaviours (e.g., *cognitive distortions* and *techniques of neutralisation*).			-LCOs: 2 -MCOs:4 -ECOs: 9
2	Enjoyment/ want	Claims that children derive emotional pleasure from sexual acts (with adults) and/or desire such experiences.	'I think there are a lot of young girls who love cock. Especially in Asia'	Assumptions made while discussing particularly memorable and/or favoured IIOC with fellow CSDs.	-LCOs: 2 -MCOs:4 -ECOs: 9
2	Entitlement	Suggestions and/or assertions that sexual acts are owed to the messenger and/or are obligatory from certain individuals and/or groups (i.e., children).	'Whores like her need to rim* me'	Assertions made about female victim depicted in IIOC, not personally known by offender.	-LCOs: N/A -MCOs: 4 -ECOs: N/A
2	Extenuation	The insistence and/or insinuation that sexual acts with children are not as harmful, inappropriate, and/or unnatural as claimed by	'Can't see owt** wrong with it'	Reply provided by the offender when asked whether they opposed child rape.	-LCOs: N/A -MCOs: 4 -ECOs: N/A

[131] Schema: a personal, mental classification of information to understand a concept (Athey, 2007), see pg.42.

		wider society, excluding statements which (solely) insist children enjoy and/or desire such experiences.			

*Oral stimulation of anus
** OWT: abbreviation and/or slang common within texts, meaning 'anything'

Enjoyment/want

Expressed while discussing IIOC and/or (alleged) physical offences, it was found that one LCO, one MCO and the study's contact ECO all shared views which insisted or implied that sexual experiences are pleasurable for children and/or juveniles. As a result, all such comments were classified under the theme of *Enjoyment/want,* and were noted to echo cognitive distortions and techniques of neutralisation (i.e., Denial of injury and Denial of victims), as extensively discussed in Chapter 3 (see pg.61). Interestingly, however, with regards to the current dataset, the tones of *Enjoyment/want*-related comments varied greatly.

To clarify, as pertains to the LCO, the individual was found to insist some prepubescent females derive pleasure from sexual acts, arguing that many victims in IIOC appear eager and/or willing. Alternatively, while the MCO likewise stated that prepubescent females enjoy sexual acts, the offender did not bother to provide rationale. Instead, the MCO merely offered matter-of-fact remarks, using derogatory terms (e.g., 'slut', 'whore', 'cunt', etc.) as if to emphasise their stance. Lastly, with regards to the contact offender, it was noted that the ECO claimed children's attitudes toward sex are of a romantic and/or intimate nature, detailing (one of) their victim's alleged compliance and/or emotional attachment as evidence. In many ways, therefore, these remarks relate back to the ECO's tendency to adopt children's views during sexual fantasies and correspond with cognitive distortions observed on both male-oriented (i.e., Malesky & Ennis, 2004; O'Halloran & Quayle, 2010) and female-oriented (i.e., Lambert & O'Halloran, 2008) chatrooms. Unfortunately, as intriguing as such observations may be, because said *Enjoyment/*

want-related assertions were only found among three CSOs' chatlogs, little more information on the nature of such comments could be gleaned.

Entitlement

Moving on to the second cognitive distortion identified among this study's sample, it was found that the MCO of Case 4 would also insinuate that children are obliged to sexually service adults, referring to himself in particular (see Table 6.15). Categorised under the subtheme of *Entitlement*, the offender's comments came in response to IIOC being shared, during which the MCO would either outright state or heavily imply that compliance from children is natural and/or expected—once again using derogatory language (e.g., 'slut', 'whore', 'cunt', etc.). When detailing contact offences which they claimed to have committed, however the MCO made no such *Entitlement*-related comments. Upon considering these findings in relation to past observations, no study (i.e., Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; O'Halloran & Quale, 2010) reports to have found cognitive distortions akin to *Entitlement*-related comments. To provide better insights, therefore, future research may (also) benefit from assessing the prevalence of *Entitlement*-related remarks further. By extension, studies should also examine whether the presence or absence of cognitive distortions, techniques of neutralisation and/or dysfunctional schemas can help assess the validity of a potential confession to contact offences.

Extenuation

Finally, with regards to this study's last identified cognitive distortion, it was found that the MCO of Case 4 would also bluntly state and/or declare that there is nothing inherently wrong with adult-child sexual relationships. As such, these comments read as being greatly related to the technique of neutralisation: Denial of injury (see Sykes & Matza, 1957). Classified herein

under the secondary theme of *Extenuation,* however, examples of the above-described comments were found to be terse and uncommon—as with the MCOs' other cognitive distortions. Most intriguingly, however, further analysis of the offenders' *Extenuation*-related remarks revealed such statements were made almost exclusively while also encouraging fellow chatroom users to commit contact sexual offences (i.e., goading a CSD to rape their stepdaughter). Curiously, therefore, unlike with their other cognitive distortions, the MCO's *Extenuation*-remarks did not only read as examples of self-deception, but as attempts at manipulating and/or influencing others. However, it is recognised that the cognitive distortions/techniques of neutralisation previously identified likewise attempted to influence other CSDs, albeit by subtler means

Section 9: Chapter reflections

Expositions

With this study's qualitative analyses now discussed, it is important to review the most salient observations and further consider the findings' relevance to past and future research. To start, this study' analyses yielded 47 thematic categories, hierarchically ranked between seven primary themes, 19 secondary themes and 21 tertiary themes, proceeding from the broadest to the most specific categories (see Table 6.17). In comparison to the collective body of past CSD-focused research (see Chapter 3), these results are consistent with the quantity of themes to be expected when analysing manifest and latent content by using both Content and Discourse Analyses. Consequently, despite this study's small sample size and the ample redactions made to CSOs' transcripts, its findings both reaffirm previous analyses and address gaps in research.

Table 6.17: Communicative themes and subthemes

Thematic tiers	Condition	Sexual Interests	Claims	Fantasies	Pursuits	Caution	Justifications
Generality / Specificity; Primary Themes; Secondary Themes; Tertiary Themes	Physical state/stage	IIOC Commentary	Non-offences	Improvisations	Stimuli	Secrecy	Enjoyment/ want
	Offender's Psychology	Identification/ Specification	Deviances	Narrations	Media	Security	Entitlement
	Reactions	Actions	Experiences	Urges	Interfacing		Extenuation
		Paraphernalia	Offences		Encouragement		
		Victim Preferences	Child offences		Rapport		
		Children's physiques	Victim access		Curiosity		
		Ages of Attraction	Denials		Courting		
		Wishful Situations	Animal Abuse				
		Envy	Adult Relationships				
		Conditions and Context	Significant Others				
			Sexual Partners				
			Confederates				

To elaborate, with regards to this study's primary theme of *Condition*, it was similarly reported within McManus et al. (2015) that CSOs would comment on their anatomy and/or physiology. Interestingly, however, so far as is understood, this study is alone in reporting that CSOs would also comment on their mental states. If so, this observation would offer a novel insight in CSOs' general communicative themes. Yet, even so, no (overt) relationship between CSOs' offence histories and *Condition*-related comments were discerned. Given that various psychological and/or emotional states can impact individuals' risk of committing contact (child) sex offences (see Chapter 2, pg.41), future research into CSDs' communicative themes and offending histories and/or severity is recommended. Indeed, as explained within Part IV of this report, this possibility shall be considered further with this study's linguistic analyses.

Next, pertaining to the primary theme of *Sexual Interests*, as within each (known) piece of comparable research (i.e., Cockbain et al., 2014; Holt et al. 2010; Lambert & O'Halloran, 2008; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quayle, 2010), it was found CSOs of this study's sample would acknowledge what IIOC, hypothetical victims and/or sexual scenarios they found particularly arousing.[132] In as much, such comments appear to comprise the majority of CSDs' general remarks. Nonetheless, no relationship between such statements and CSOs' offender categories could be established. Although, because the mention of sexual interests in adults only came from this study's non-contact offenders, such findings support the observation reported within McManus et al., that contact offenders comment on adult (sexual) relationships significantly less.

Relatedly, once again bolstering previous studies (see Chapter 3), it was observed that CSOs would make statements (truthful or not) about personal sexual experiences and/or behaviours, ranging from relatively harmless acts to (unverified) confessions to child rape. In turn, such comments, were classified under the primary theme of *Claims*, and would appear in CSOs' general dialogue with fair regularity. Among such statements, moreover, it was noted that only non-contact offenders mentioned sexual acts with adults, reinforcing the similar findings of McManus et al. (2015). Interestingly, however, it was also noted that (non-contact) CSOs would make claims about: 1) animal abuse, 2) sexual experiences during their childhood and 3) confederates who (allegedly) assisted with acquiring IIOC or interacting with children. Given that all such claims provide reasons for concern, said observations warrant future research.

As expected, based on the general nature of chatrooms (see Chapter 2), this study found that CSOs would consciously engage with imagination to express and/or develop sexual fictions,

[132] Excluding when CSOs actively engaging with their imaginations (i.e., *Fantasy*-related comments).

thereby leading to this study's fourth primary theme of *Fantasies.* More specifically, analyses revealed three distinct forms of fantasies, including those which: 1) developed spontaneously from external stimuli, 2) were phrased as detailed reports or stories, suggesting previous consideration or 3) portrayed an ideal situation as if acknowledging a vague goal, daydream and/or fancy. With respects to the study's least and moderately severe CSOS, those who shared fantasies, wrote messages reading, not only as attempts to achieve sexual gratification and/or subtly incentivise the exchange of illicit media, but also to establish a presence and/or sense of comradery. Indeed, given that CSDs with similar sexual interests would collaborate to contribute to group fantasies, it could be that such dialogues served to normalise commentors' proclivities. Additionally, it is worth iterating that when this study's contact ECO shared sexual fantasies, they would describe physical abuse by adopting and romanticising the perspectives of children. Such phrasing was reminiscent of cognitive distortions reported by past research, where CSDs would describe adult-child sexual relationships as being mutually affectionate. As such, future research into CSOs/CSD's sexual fantasies should consider whether individuals' phrasing relates to techniques of neutralisation, cognitive distortion and/or indicators of offending tendencies.

Moving on to this study's fifth primary theme, *Pursuits*, it was noted that all 10 offenders of WYP's sample made direct attempts to either acquire sexual stimuli, encourage sexual acts from others and/or establish (sexual) relationships online. Indeed, while exact percentages were not measured, comments of this nature made up what appeared to be a large majority of CSDs' general intercommunications. Delving further, however, because several of this study's MCOs and its child sex groomer urged others to perform sexual acts and/or contact offences, it could be that such comments relate to the CSOs' convictions of producing IIOC, potentially indicating methods used to commit such offences. Furthermore, it is worth iterating that while some LCOs

and MCOs mentioned adult (sexual) relationships within *Pursuit*-related statements, this was not the case for either of the study's ECOs. Interestingly, however, it was found that while enquiring about other CSDs' alleged physical offences, the sample's contact offender offered supportive and/or positive statements, reminiscent of Reis and Shaver's (1988) intimacy model of friendship. Along with this study's quantitative analyses (see Chapters 7 and 8), therefore, it is worth considering how this unique communicative feature may relate to the contact offenders' use of language.

Taking into account all communicative themes reviewed thus far, it is unsurprising that several CSOs among this study's sample also mentioned matters related to hiding one's sexual interests and/or crimes. With comments about minding one's surroundings, avoiding undercover investigators (online) and deleting all incriminating electronic evidence, such messages were categorised under the theme of *Caution*. Similarly, in their examination of multiple chatrooms, Holt et al. (2010) found CSDs to often discuss concerns over law enforcement and avoiding punishment. Beyond this, however, this study's use of police data served to confirm that such statements are made (at the very least) by non-contact offenders. Nonetheless, it would not appear that *Caution*-related remarks are particularly prevalent within CSDs' general dialogue. Yet, due to limits with this study's dataset, more research is warranted to reaffirm each of the abovementioned observations.

Lastly, this study also noted that several CSOs made comments attempting to diminish or dismiss the severity of child sex offences. Categorised under the primary theme of *Justifications*, such statements demonstrated cognitive distortions and/or techniques of neutralisation, including several similarly reported in preceding studies. To clarify, much like comments previously observed on both male-oriented (i.e., Malesky & Ennis, 2004; O'Halloran & Quayle, 2010) and

female-oriented CSD chatrooms (i.e., Lambert & O'Halloran, 2008), it was found that one LCO, one MCO and this study's contact ECO would insist that adult-child sexual relationships were mutually enjoyable, desirable and/or affectionate for victims. Beyond this, however, so was the aforementioned MCO also noted to make blunt and crude remarks, stating that adult-child sexual relationships not only harmless but obligatory on the part of children. To this latter cognitive distortion, so far as is known, no previous CSD-focused study has reported a comparable observation. Thus, while *Justification*-related remarks do not appear to be as prevalent as expected within CSDs' general communications; and, while such comments do not demonstrate any relationship to CSOs' offending histories, this study's observations suggest that future research is needed. Indeed, as summarised within Chapter 10, several of this study's findings not only present new considerations for understanding CSDs' communicative themes and/or online communities, but also offers novel possibilities of helping to identify particularly dangerous persons, if examined further.

Upcoming sections

Despite concerns with the study's small sample size and disproportionate redactions to offenders' chatlogs, in the end, numerous insights were found which may (eventually) prove useful to investigations. With that said, as discussed in Chapters 4 and 5, as part of this study's partial mixed methods design, it is the researcher's intent to compliment the study's Content and Discourse Analyses with statistical tests. However, because disparate transcript lengths made quantitatively comparing CSOs' communicative themes infeasible and/or inappropriate, it was decided to instead perform linguistic analyses.

In turn, this thesis' upcoming chapter will briefly review the principles and relevancy of psycholinguistic research, as discussed within Chapter 3. Likewise, by reconsidering known risk factors for committing contact sexual offences, so will insights to the potential investigative utility of psycholinguistics be reexamined. Following said discussions, Chapter 8 will then discuss this study's resulting hypotheses, as well as the methods and findings of the researcher's quantitative analyses. Next, for the remaining interpretation phase of this study's mixed methods design, Chapter 9 will reexamine the current study's findings as a collective and postulate on any pragmatic implications. In conclusion, Chapter 10 will recognise this study's limitations and conclude the present report by offering suggestions for future research.

PART IV
Quantitative analyses: Initial discussion

7. Quantitative analyses: Methods and results

Section 1: Introduction and review

As thoroughly examined within Chapter 3, imperfect and limited although languages may be, such means of communication remain the most reliable to directly express thoughts and feelings (Hancock et al., 2011). Recently, by using textual analysis software to examine individuals' exact vocabulary within their writing and speech, linguistic studies have proven capable of providing additional and/or deeper insights into persons' thoughts, lives and psychologies (Tausczik & Pennebaker, 2010). With respect to the present study, multiple linguistic idiosyncrasies have been found which may serve to better identify trends and offenders within CSDs' electronic intercommunications (see Table 7.1). Currently, however, such efforts have been focused on exchanges between (decoy) children and child sex groomers, thereby leaving a gap in research. By applying the findings of said research to examine WYP's sample, therefore, it may be possible to address this oversight and to discern, linguistic dissimilarities between this study's CSO categories (i.e., LCOs, MCOs and ECOs).

Table 7.1: Particularly relevant linguistic idiosyncrasies

Population	High prevalence	Low prevalence	Conflicting findings and/or Confounding variables	Studies
Contact-driven groomers*	1) Sexual words 2) First-person pronouns 3) Positive emotion words 4) Negative emotion words 5) Overall wordcount 6) Assertiveness (i.e., *clout*)	N/A	1) Deception also linked to negative emotion words 2) Overlap with depression's high frequency of negative emotion words	1) Chiu et al. (2018) 2) Siegfried et al. (2019)
Persons with negative affect and/or	1) Negative emotion word 2) first-person pronouns 3) third-person pronouns	1) Positive emotion words	1) Only people with general negative affects used a high rate of third-person pronouns	1) Bernard et al. (2016)

depression			2) Deceptive statements also linked to negative emotion words 3) Negative emotion words also linked to contact-driven groomers	2) Breznitz (2001) 3)Fernandez-Cabana et al. (2013) 4) Stirman & Pennebaker (2001)
Psychopathic murderers	1) Disfluencies 2) Concrete nouns, 3) Subordinating conjunctions 4) Past tense words	1) Family-related words 2) Spiritual-related words	1) More impulsive offenders correlated with adverse emotions and negatively correlated with intense feelings	1) Hancock et al. (2013)
Honest individuals	1) Perceptual sensory words 2) References to self	N/A	1) Deceptive statements also linked to perceptual sensory words	1) Bond & Lee (2005)
Deceptive individuals	1) Negative emotion words 2) Spatial words 3) Wordcounts 4) Negations 5) Perceptual sensory words 6) Third-person pronouns	1) Cognitive complexity words 2) first-person pronouns 3) third person pronouns 4) Causal terms	1) Honest statements also linked to frequent perceptual sensory words 2) Deception easier to discern among young adults than middle-age or older adults 3) Linked to high and low frequency of third-person pronouns 4) Only highly motivated liars linked to more negations 5) Only less motivated liars linked to more casual terms	1) Bond & Lee (2005) 2) Hancock et al. (2008) 3) Newman et al. (2003)

*For their research, both Chiu et al. (2018) and Siegfried et al. (2019) compared the vocabulary of contact-driven groomers to fantasy-driven groomers

It is strongly evidenced and widely accepted that studies can benefit from adopting mixed methods designs (Doyle et al., 2009; Guest, 2012). As discussed in Chapter 5 (see pg.151), in doing so, researchers not only able to make more observations but also expand their aims and bolster conclusions (Doyle et al.; Guest). Because statistically comparing the frequencies of CSOs' communicative themes was deemed unfit for the present study, it was decided that quantitative linguistic analyses would provide the best means of producing and/or maximising pragmatically useful findings. To that point, however, as touched upon within

Chapter 3 (see table 7.1), so do past linguistic studies demonstrate the complexity and importance of choosing the most suitable text analyses programmes, linguistic variables and statistical tests to examine one's hypotheses and dataset. As such, this chapter will consider each of these variables and clarify this study's hypotheses, before examining the results of its quantitative analyses. Moreover, so will all the preparation required to linguistically analyses CSOs' transcripts be considered. Before this, however, in order to avoid confusion when reviewing this study's hypotheses and findings, several caveats must be addressed.

Firstly, while research into the vocabulary of child sex groomers provides a foundation for this exploratory study to develop hypotheses, because the explanations offered for contact-driven groomers' linguistic idiosyncrasies relate to conversations with (decoy) children, these theories do not directly pertain to any potential trends within CSDs/CSOs' intercommunications. Should similar to linguistic idiosyncrasies be found within the chatlogs of this study's offenders, therefore, additional and/or alternative explanations will be considered within the final phase of interpretations (see Chapter 8), in conjunction with results from this study's qualitative analyses.

Secondly, it should be iterated that each of this study's linguistic predictions were made prior to its qualitative analyses. In this way, the researcher's theories were based on past studies, opposed to the observations presented in Chapter 6. Moreover, as rationalised within Chapter 5 (see pg.151), the phases of this study's mixed methods design were intended to be conducted separately, with no requisite sequence[133] or differing levels of importance. Thus, as stated above,

[133] With regards to this study's qualitative and quantitative phases having no set sequence, because CSOs' chatlogs required editing to be processed through text analysis software, it was practical to first perform this study's qualitative analyses—given that the transcripts were already being read. However, that is not to say this study's quantitative analyses were either dependent on or considered secondary to the study's qualitative findings.

the rationale and results of the following hypotheses will be reassessed upon reexamining this study's qualitative and quantitative analyses in Chapter 8 of this thesis.

Hypotheses: predictions and selection

As indicated above, the following predictions for the present study's analyses were made, based on the linguistic research reviewed in Chapter 3 and summarised in Table 7.1. Later on in this report, clarification will be provided in regard to what specific linguistic variables were examined to test said hypotheses. Subsequently, moreover, additional linguistic variables of interest to the present research will be reviewed in Chapter 8 to better understand the nature of CSDs and CSOs' computer mediated exchanges.

Nouns

I. Contact-driven groomers are reported to use first-person pronouns more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Likewise, persons with depression and/or negative affects—known risk factors for context sexual offending (see Ward & Beech, 2006)—use more first-person pronouns than individuals with positive affects and/or the general populace (Bernard et al., 2016; Tausczik & Pennebaker, 2010). **Thus, this study predicts its ECOs will use a higher frequency of first-person pronouns than MCOs, who in turn are expected to use a higher frequency of first-person pronouns than LCOs.**

II. Persons with general negative affects tend to use more third-person pronouns than (clinically) depressed individuals and persons with positive affects (Bernard et al. 2016). Because negative affects are known risk factors for context sexual offending (see Ward & Beech, 2006), **this study's ECOs are predicted to use a higher frequency of third-person pronouns than MCOs, who are themselves expected to use a higher frequency of third-person pronouns than LCOs**.

Rejected hypothesis

- Psychopaths use more concrete nouns relating to base needs than non-psychopaths, while the latter use more abstract nouns relating to higher needs (Hancock et al., 2013). Because antisocial tendencies are known risk factors for committing contact sexual offences (see Briggs et al., 2011; Ward & Beech, 2006), the use of nouns might relate to the severity and/or category of CSOs within WYP' sample. Yet, because many of the word categories developed for the text analysis programme adopted by this study are based on themes opposed to parts of speech (see Appendix F), to attempt comparing offenders use of concrete and abstract nouns would be unreliable and/or infeasible. As such, it was decided such variables could not be reliably tested/compared.

Verbs

III. Psychopathic offenders use past-tense verbs more frequently than non-psychopathic offenders (Hancock et al., 2013). Given that psychopathy and antisocial traits are known risk factors for contact offending (see Briggs et al., 2011; Ward & Beech, 2006), **this study expects its ECOs to use a higher frequency of past tense verbs than MCOs, who are predicted to use a higher frequency of past tense verbs than LCOs**.

Descriptors

IV. Contact-driven groomers use negative emotion words more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Likewise, persons with depression and/or negative affects—known risk factors for context sexual offending (see Ward & Beech, 2006)—use more negative emotion words than individuals with positive affects and/or the general populace (e.g., Bernard et al., 2016). **Thus, this study predicts its ECOs will use a higher frequency of negative emotion words than MCOs, who themselves are expected to use a higher frequency of negative emotion words than LCOs.**

V. Contact-driven groomers use positive emotion words more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Additionally, persons with psychopathy—a known risk factors for context sexual offending (see Briggs et al., 2011; Ward & Beech, 2006)— use positive emotion words more frequently than non-psychopaths (Hancock et al., 2013). Taken together, these findings indicate positive emotion words may be used with greater frequency among more severe CSOs. Relatedly, research also finds that neither depression nor positive affects correspond with significantly different frequencies of positive emotion words (Bernard et al., 2016). **Ultimately, therefore, this study's ECOs were predicted to exhibit a higher frequency of positive emotion words than MCOs, who were predicted to use a higher frequency of positive emotion words than LCOs.**

Other

VI. Contact-driven groomers are found to be more dominate and/or assertive (i.e., express more *clout*) than decoy victims (Drouin et al., 2017). Additionally, research has noted social hierarchies among CSDs' online communities (Linehan et al., 2001) while CSO syndicates have been found to hold individuals who commit contact offences in higher regards (Cockbain et al., 2014). **As such, this study's ECOs were predicted to express more dominance than MCOs, who themselves were expected to express more dominance than LCOs.**

Rejected hypotheses

- Contact-driven groomers' chatlogs have higher wordcounts than fantasy-driven groomers (e.g., Drouin et al., 2017). Given that the chatlogs provided by WYP were redacted, however, this feature was deemed unfit for analyses.

- Psychopaths express disfluencies more frequently than non-psychopaths (Hancock et al., 2013). However, despite psychopathy and antisocial traits being known risk factors for contact offending (see Briggs et al., 2011; Ward & Beech, 2006), because disfluencies are not

(seemingly) expressed the same between writing and speech (see Collins, Leonard-Clarke & O'Mahoney, 2019), this feature was deemed unfit for current analyses.

Deception

As discussed within Chapter 3 (see pgs.92 and/or Table 7.1), numerous linguistic features have been linked with honesty and deception. In turn, these findings may provide means of identifying misleading statements among CSDs' intercommunications, including claims of contact offending. Upon consideration, however, such analyses were determined to be beyond the scope of the present study for multiple reasons. To begin, the relationship between deception and language is (relatively) inconsistent, which makes attempts to identify lies within this study's sample of edited chatlogs especially unreliable. Because the effects of individuals' mental states are found to pervade sufferers' general vocabulary (Tausczik & Pennebaker, 2010), however, it was nonetheless deemed reasonable to assess CSOs' language with resects to (potential) negative affect and psychopathy.

Relatedly, it was also recognised that the CSOs in WYPs' sample held conversations with persons whom they knew to varying degrees (e.g., friends, acquaintances, strangers). As such, it was reasoned that offenders' levels of deception might vary, depending on their familiarity with whom they were conversing. Likewise, based on factors such as: 1) the use of private or public accounts, 2) differing types of electronic devices and 3) what awareness individuals had regarding police monitoring their communications, a CSO's incentive to make deceptive statements might be greatly impacted. With the offence claims of some offenders in WYP's sample being heavily redacted, moreover, this too was reasoned to potentially confound any attempts at identifying possible deception. In the end, therefore, while future research might

be suited to assess the potential effects of deception on CSOs' language, such analyses were (once again) deemed beyond the scope of this study.

Section 2: Linguistic analysis methods

Within Chapter of this thesis, it was recognised that numerous computer text analysis programmes exist which show promise for expediting the identification, organisation and/or appraisal of vocabulary and/or phrases within CSDs' transcripts.[134] Thus, to examine all (potentially) suitable software herein would be infeasible. Nevertheless, to best address this study's selection process, software which was determined to be especially promising requires discussion. To begin, therefore, it is essential to briefly reexamine the programmes specified within Chapter 3, focusing on those most commonly used within relevant studies.

LIWC and Wmatrix

To recap, with regards to Francis and Pennebaker's (1993) Linguistic Inquiry and Word Count (LIWC) and Rayson's (2003; 2008) Wmatrix, both programmes involve categorising words based on their themes and/or functions to calculate what percentage of a text's total wordcount was grouped within each category. Likewise, the frequency of individual/specific words can be similarly calculated. What makes these programmes appealing for the present study is their straightforward nature. Due to the complexity of analysing persons' language and psychologies, any tool which eases said endeavors without oversimplifying the process and/or results is worth considering. With all that said, however, this is not to imply that the aforementioned programmes are equivalent.

[134] For a cursory review of text analysis programmes and/or their development, see Alexa & Zuell (2000); Hsiao, Cafarella & Narayanasam (2014), Rayson (2003) and Tausczik and Pennebaker (2010).

As addressed in Chapter 3 (see pg.75), while LIWC-2015 and Wmatrix each provide premade dictionaries to sort transcripts' vocabulary into word categories and allow users to customise such dictionaries for a study's specific analyses,[135] only Wmatrix is able to analyse syntax and/or process multi-word units to categorise words by context (Rayson, 2008).[136] Between the two programmes, therefore, it would appear that Wmatrix presents the most suitable option for this study's analyses. However, upon looking into acquiring the software, it was found that Wmatrix is owned and licensed by Lancaster University. To use the programme, therefore, all data must be uploaded to an online repository (accessible only to the analysts).

Despite there being no indication of weakness in Lancaster University's cybersecurity, to upload data from WYP onto a website operated by another university would greatly violate the terms specified within the Data Processing Contact (see Appendix C). Fortunately, with regards to LIWC-2015, this programme was found to be downloadable onto a personal computer,[137] thereby allowing data to be processed without storing files online. Nonetheless, to assure the current research chose the most suitable programme, other options were considered.

To broaden this study's assessment of text analysis programmes, attention was given to software cited within research previously reviewed (see Chapter 3, Sections 3 and 4). This included, but was not limited to the: Dictionary of Affect and Language (DAL) tool (see Whissell & Dewson, 1986), General Inquirer tool (see Stone et al., 1966) and CLAN tool (see MacWhinney, 2000). Given the programmes' formats, user requirements, and/or specialized

[135] Although customiseable wordlists are useable with LIWC-2015, the programming of Wmatrix is (arguably) more adept.
[136] With regards to the abovementioned programmes capabilities, it is crucial to note that shortly before submitting this thesis, LIWC's developers unveiled an updated version of the software (i.e., LIWC-22) which can account for syntax and/or multiword units.
[137] Coded for Macintosh and Windows PC (32-bit and 64-bit systems).

features, however, each were deemed either incompatible with the present study's aims or infeasible to learn within the researcher's allotted six-month timeframe.

In addition to above-mentioned software, however, another programme was reviewed upon finding an relatively new study into child sex groomers. Once again using transcripts from Perverted Justice (n=622), Schneevogt, Chiang and Grant (2018) sought to isolate examples of overt persuasion and extortion within groomers chatlogs. Yet, unlike the linguistic research into child sex groomers previously reviewed (which primarily used LIWC), the aforementioned study opted to use an alternative programme, *AntConc*.

AntConc

Briefly put, AntConc is freely available linguistics programme, offering multiple functions (Anthony, 2011). [138] Among its simpler features, the tool is able to produce wordlists of vocabulary and tally the number of times each unique word appears within texts. In essence, this action is similar to that performed by LIWC or Wmatrix. Notably, however, AntConc does not sort words by their functions and/or into thematic categories. By comparing the frequencies of words within a dataset's sample (e.g., CSOs' transcripts) to a (alterable) reference corpus representing another group (e.g., the general populace), however, AntConc is able to identify *key* (i.e., especially distinct) vocabulary which may otherwise go unnoticed.

Beyond producing wordlists, AntConc is also capable of analysing syntax and/or processing multi-word units, similar to Wmatrix (Anthony, 2005). For example, when used by Schneevogt et al. (2018), the programme was able to identify instances overt persuasion and extortion within groomers' communications, such as: 'don't you dare'; 'just do it'; and, 'where

[138] To install AntConc and access supporting software or documents, visit: http://www.laurenceanthony.net/.

you live' (pg. 99). As a final point, another feature of AntConc is to plot the appearance of specified terms or phrases using numbered striations inside a box which symbolically represents an entire corpus (see Figure 7.1)[139]. By these means, a visualisation of the distribution of key words and/or statements is produced to help identify any peculiar patterns. In this respect, AntConc offers another feature otherwise lacking with LIWC and Wmatrix. Yet, despite this, further consideration of the programme revealed several complications.

Figure 7.1: Appearances of the terms *child/children* within Chapter 2

As already stated, in order to identify key terms and/or estimate the strength of relationships between neighbouring words, AntConc requires users to upload reference corpuses which represent the writing and/or speech of other populations to contrast with the dataset (Anthony, 2005). At present, however, no reference corpus was found to be appropriate for the current study. Within past research, one reference corpus frequently used is the Brown Corpus of standard English (Francis, & Kucera, 1979; *Brown Corpus*, 2018). For this reason, it was thought this corpus could be used herein. Unfortunately, upon consulting staff of the University of Huddersfield's linguistics department, it was explained that the Brown Corpus is now generally considered outdated (see Leech, & Smith, 2005). Likewise, while various other corpuses were discussed (see the ICAME Corpus Collection[140]), each was inevitably rejected, owing to issues

[139] As an example of AntConc's Concordance Search Term Plot Tool, an isolated version of Chapter 2 from this thesis was run through the software, demonstrating the distribution of the terms *child/children* (with tables removed).

[140] For resources on the ICAME Corpus Collection, refer to: http://korpus.uib.no/icame/manuals/.

with: age, non-random samples or a lack of online communications. In the end, therefore, despite AntConc's appeal, adopting the programme for the present study was deemed impractical.

Selected software

Upon concluding this study's assessment of linguistic analysis programmes, it was decided that LIWC (2015) was the most appropriate option.[141] By processing CSOs' transcripts through the software, the resulting scores (i.e., percentages) of vocabulary sorted into LIWC's word categories would allow for the language of this study's offender categories (i.e., *Least Concerning Offenders* (LCOs), *Moderately Concerning Offenders* (MCOs) and *Extremely Concerning Offenders* (ECOs)) to be statistically compared (see Section 4). Beyond this, by using LIWC, this study's results will remain congruent with most literature which informed the current research's hypotheses. This means that the specific linguistic variables examined within this study (e.g., pronouns, emotion words, verbs and/or clout) will be consistent with the vocabulary and/or word categories examined in past child sex groomer and psycho-linguistic research , which similarly used LIWC. To that point, it must be noted that to process chatlogs through LIWC, this study relied on the software's standard, pre-coded English dictionary.

It is recognised that the accuracy of LIWC's (2015) default dictionary remains imperfect, classifying an average of 85.18% of words and/or punctuation marks (Pennebaker et al., 2015). In relation to how well the software sorts terms within electronic communications (i.e., vernacular and/or slang), moreover, it may be that the preinstalled dictionary is less efficient. Despite this, however, to create custom dictionaries for analysing jargon within

[141] Once again, it is crucial to note that shortly before submitting this thesis, the programme's developers unveiled an updated version of the software (i.e., LIWC-22). Any discrepancies between the two versions, therefore, will need to be accounted for in future research and later consideration of this thesis.

CSDs/CSOs' intercommunications was deemed premature. In the future, once a better understanding of the terminology used by such communities is established, utilising custom dictionaries may prove beneficial to research and/or investigations. Yet, given the exploratory nature of this study, any attempt to create custom word categories would be extremely limited.

***Section 3*: Transcript preparation**

To assure that LIWC's categorisations were as accurate as possible, all transcripts of WYP's sample required some degree preparation. It should be emphasised that all changes made to CSOs' chatlogs followed a strict protocol (as detailed below); yet, even so, the extent of editing required for each offenders' transcripts varied case-by-case. In addition, it is important to note that each of the changes detailed herein were made after all transcripts were purged of: 1) duplicate messages,[142] 2) non-sexual comments and 3) statements not attributable to this study's subjects. Ultimately, because alterations were kept to a minimum and because any effects on CSOs' comments were considered during this study's subsequent analyses (see Chapter 8), it was determined the following edits did not greatly impact the manifest or latent content of CSOs' (sexual) communications. As detailed below, however, some minor concerns were raised.

To begin, it was reasoned that because LIWC calculates the percentages of words within each category by using a corpus' total wordcount, all superfluous information within CSOs' transcripts had to be deleted. As within Drouin et al.'s (2017) research into child sex groomers, this meant redacting all timestamps, usernames/IDs, hyperlinks to website and names of locations.[143] In addition, it was decided that any text, icons and/or emoticons used to visually

[142]In this context, *duplicate messages* refer to statements copied multiple times by investigators.
[143] Typically, the names of locations and hyperlinks were redacted WYP. Yet when vague locations were mentioned (e.g., northern England) or when hyperlinks led to inactive or lawful websites (e.g., videos of children on Youtube), these details occasionally remained.

represent an emotion or concept (e.g., *(:* or 😊)[144] would be extracted. Although it is recognised that pictorial posts convey information in similar ways to written words, these messages could not be classified by LIWC and were deemed distinct from CSOs' use of language. Where such judgements became more unclear, however, were in relation to abbreviations known as *netspeak* (e.g., *BRB*: be right back; *LOL*: laughing out loud; *GR8*: great) and CSOs' misspellings.

With regards to analysing netspeak, the complication facing researchers is that the ease of using such contractions may compel individuals to reference words which they would not otherwise use if a message had to be spelled out in full. Meaning, if netspeak comments are changed to their unabbreviated formats (e.g., *BRB* to *be right back*), this might both inflate a transcript's total wordcount and distort an individual's use of vocabulary. Alternatively, by redacting netspeak, this could erase potentially critical comments, such as an offender using the abbreviations *BF* or *GF* for *boyfriend* or *girlfriend*. In recognition of this complication, LIWC (2015) does include a 'netspeak' word category. However, given how rapidly the use of netspeak and/or textspeak evolves, to sort such comments into a single category reliant on an outdated dictionary is unideal. In the case of Drouin et al.'s (2017), it was deemed fit to change all groomers' netspeak into their unabbreviated formats before processing through LIWC. As such it was similarly decided that the current research would spell out all unambiguous netspeak and leave any abbreviations which could not be interpreted unaltered—so as to at least partially account for such comments within transcripts' wordcounts.[145] That being said, with respects to netspeak used to communicate sounds or actions (e.g., *LOL*: laughing out loud, *XOXO*: hugs and kisses), these messages were deemed distinct from CSOs' language and deleted.

[144] It should also be clarified that all grammatical punctuation was also accounted, using LIWC's relevant categories, which allowed for adjustments to be made prior to any statistical analyses for significance.
[145] Across all transcripts, a total of three instances occurred where netspeak could not be interpreted

Next, in relation to disfluencies (e.g., *uh, um, ah*), research indicates that such remarks are not expressed the same between writing and speech (Collins et al., 2019). In and of itself, this finding does not warrant erasing such comments from offenders' transcripts. On the contrary, given that Hancock et al.'s (2013) research indicates more disfluencies to be indicative of psychopathy (when talking), future research should examine the significance of such variables in relation to psychopaths' written communications. Indeed, to this point, it should be recognised that LIWC (2015) has multiple word categories (i.e., *nonfluencies* and *fillers*) to classify such comments. Yet, be that as it may, because of the varying degrees which police and/or consultants removed CSOs' disfluencies before providing them for the current study (especially within Streamlined Forensic Reports[146]), to include such comments within the present linguistic analyses would misleadingly inflate or deflate transcripts' total wordcounts. For this reason, it was ultimately decided that all disfluencies would be erased from the study's transcripts.

With respects to misspellings, it was found that Drouin et al. (2017) chose to correct all misspelled words within child sex groomers' chatlogs. This included both accidental and intentional misspellings, the latter of which (in this context) refers to offenders' attempts to emphasise their thoughts, feelings and/or reactions (e.g., *yessss, sexxxy, thaaanksss, ohhhh*). Because the sentiment of a word can be drastically altered based on its emphasis (e.g., in cases of sarcasm), however, arguments can be made against altering intentional misspellings. Yet, regardless of whether a misspelling is intentional or not, LIWC (2015) is unable to analyse syntax. Thus, to account for the latent meaning of intentional misspellings, qualitative analyses would need to be performed. To this point, however, it is worth noting that some instances of misspellings may prove difficult to interpret as intentional or accidental (e.g., *thaanks*).

[146] Streamlined Forensic Reports (SFRs): when police or consulting firms delete all messages within CSOs' chatlogs which are deemed irrelevant to investigations and/or for securing convictions.

Next, it is worth noting that in order for LIWC (2015) to categorise numbers, all numerical signs (e.g., 1, 2, 3) had to be spelled out accordingly (e.g., one, two, three). This relatively straightforward change was deemed important for several reasons. Firstly, by guaranteeing that all figures were registered within LIWC's 'numbers' category, this would help assure that a more accurate report of the percentage of words capable of being sorted by LIWC was given. Secondly, because offenders within WYP's sample were documented to make statements regarding their own ages and the ages of children, the potential need to spell out all numerical figures must be duly considered, should investigators and/or future research use LIWC and/or similar software to examine CSDs/CSOs' mention of ages.[147]

With all this said, beyond the abovementioned points, both Rashid et al. (2013) and Siegfried et al. (2019) report that some child sex groomers intentionally misspell words which they know and/or suspect are monitored by police software. For this reason, to redact or leave misspellings within a transcript might dismiss crucial information, as CSOs intended. As such, in the end, it was determined that the present research would correct all misspellings (intentional or not) for the sake of its linguistic analyses. However, given the complications with assessing this variable, so would attention be paid to potential purposeful misspellings, to address within the study's interpretation stage. Additionally, as similarly done within Hancock et al. (2008), if an offender amended a spelling or grammatical error themself, only the corrected version was kept.

Confirming LIWC's suitability

After performing the aforementioned amendments, it was imperative to assure that LIWC (2015) was capable of categorising a majority of CSOs' vocabulary. As previously stated, on

[147] In relation to the newly released LIWC-22, however, it is recognised that the complications involved with spelling out numbers may have been rectified.

average, the programme is able to classify 85.18% of words and/or punctuation (Pennebaker et al., 2015). With regards to WYP's sample, it was found that LIWC was even more proficient, classifying an especially higher percentage of words for each CSO and the sample as a whole (see Table 7.2). This result not only supports LIWC's suitability for the present study, but also reassures that the sample's shorter chatlogs were not disproportionately affected during processing.

Table 7.2: Transcript specifics and LIWC suitability (post-processing)

Offender	Category	Transcript wordcount	% of words categorised by LIWC
Case 1	ECO	118	94.92
Case 2	LCO	2,516	92.45
Case 3	MCO	10,157	95.05
Case 4	MCO	659	94.23
Case 5	LCO	70	87.14
Case 6	MCO	16	93.75
Case 7	MCO	143	89.51
Case 8	MCO	126	95.24
Case 9	ECO	50	100.00
Case 10	MCO	147	95.24
Mean	N/A	1,400	94.47

In addition to assuring LIWC's ability to categorise CSOs' vocabulary, calculations were performed to determine the *mean* ($\bar{x}$) chatlog length for each offender category. These averages were found to be as follows: LCOs $\bar{x}$ = 1,293 words; MCOs $\bar{x}$ = 1,522 words and ECOs $\bar{x}$ = 84 words. Immediately, these means emphasise the briefness of ECOs' chatlogs and expose the influence of the dataset's two particularly lengthy transcripts (i.e., Cases 2 & 3). For these reasons, great care had to be taken when selecting statistical analyses to compare LIWC scores between CSO categories. Before examining the results of these analyses, therefore, it is crucial to review the statistical test selection process.

Section 4: Statistical test selection

Primary tests: assessment and selection

In order to determine a study's ideal statistical test(s), analysts must consider both the aims of their research and the nature of their dataset (Field, 2018). As repeatedly established, in relation to this study's quantitative element, the researcher's interest is whether any statistically significant differences in LIWC scores (for select word categories) exist between LCOs, MCOs, and ECOs. As such, the following review shall focus on statistical tests deemed most appropriate and/or relevant for achieving these aims.

Used to gauge differences between typologies and/or groups, a Multivariate Analysis of Variance (MANOVA) compares the values of elements, features or factors being measured and/or scored (i.e., *dependent variables*) across categories (i.e., *independent variables*) within a study's sample—specifically when two or more measurements/scores are being examined (Field, 2018). More precisely, by comparing the arithmetic averages (i.e., *means*) of each dependent variable (DV), the test calculates whether any large enough differences exist between a study's independent variables (IVs) to confirm whether one or more of the IVs is a primary influencing factor (Field). For example, within McManus et al. (2015), a MANOVA was conducted to confirm if any significant differences existed between contact and non-contact CSOs' chatlogs, in relation to the prevalence of the study's higher order communicative themes (i.e., Adult relationships, Child sexual interest, Media, Sexual self and Rapport).[148]

[148] Alternatively, Black et al.'s (2015) use of LIWC involved calculating whether significant linguistic changes occurred between CSOs' grooming stages by running 'MIXED models' analyses (pg.143). Based on the results, the study seemingly adopted a test comparable to MANOVAs. Yet, without additional details, the research shall not be examined further.

Inasmuch, MANOVAs offer researchers multiple benefits with relatively few detriments (see Table 7.3). Yet, as with any statistical test, to avoid producing false significant or insignificant results—thereby mistakenly confirming or refuting one's hypotheses (i.e., *Type 1* and *Type 2 errors* respectively)—researchers must assure that their data possess the qualities (i.e., *assumptions*) necessary to run the desired tests (Field, 2018; Furlong, Lovelace & Lovelace, 2000). In relation to the current study, ultimately, it was found that complications with CSOs' disproportionate transcripts, scattered LIWC scores and categorisation methods made performing a MANOVA unreliable (see Table 7.3). To that point, it was also found that due to similar issues (i.e., violations of *normality* and *homogeneity of variances*), McManus et al. (2015) likewise determined that MANOVAs were unfit for testing all of their study's variables.

Table 7.3: Attributes of MANOVA tests

Function	Strengths	Weaknesses	Assumptions	Suitability for study
Compares the means (squared) between two or more independent, multivariant groups and the sample as a whole	1) Improved chance of discerning changes which result from different variables 2) Good at identifying any interaction between variables 3) Protects against Type 1 errors 4) Detects whether groups differ in combinations of variables 5) Robust, so long as samples	1) Requires scores in different conditions to be independent 2) Less powerful than ANOVA 3) More assumptions than ANOVAs	1) DV is interval or ratio data → 2) IV consist of two or more independent, categorical groups → 3) The observations within groups or between groups have no relationship (i.e., *independence of observations*) → 4) No significant outliers → 5) DV is normally distributed, for each IV category (i.e., *normality of variances*) →	1) Assumption met 2) Assumption met 3) Assumption violated. Because all offenders possessed or distributed IIOC, this demonstrates a relationship between each CSO category 4) Assumption violated, the lengths of chatlogs varied greatly 5) Assumption violated, owing to sizeable differences among chatlogs, the

	are large and not excessively skewed			LIWC scores are not normally distributed for each offender category
			6) The distances and/or distribution of scores within samples are relatively equal to the mean scores of their (collective) groups (i.e., *homogeneity of variances*) →	6) Assumption violated, due to differences among chatlog lengths, the distances/distribution of LIWC scores are not all relatively equal to the mean score of CSO groups

In instances when the mean scores of DVs are unevenly distributed across a sample and/or individual IV categories, it is essential to adopt *non-parametric tests* which account for such skews (Field, 2018). With respects to the current study, the effects of disparate transcript lengths and uneven group sizes on offenders' LIWC scores required selecting a test capable of making adjustments to calculate for significant differences. Similarly, in order to compare the non-parametric scores of contact and non-contact offenders' use of communicative subthemes, McManus et al. (2015) opted to perform Mann–Whitney U tests (i.e., Mann & Whitney, 1947).

Put simply, the Mann–Whitney U test[149] can resolve issues with uneven distribution across a sample and/or its IVs categories (i.e., violations of normality and homogeneity of variances, respectfully) by ranking all scores of a DV and then comparing these ranks between each IV category (Field, 2018; Sheskin, 2007). In theory, this would entail ranking the scores for each LIWC word category and then calculating whether these rankings significantly differ between their corresponding offender groups. As before, however, to perform such calculations, the Mann-Whitney U test requires that a dataset meet several assumptions (see Table 7.4).

[149] Functionally equivalent to the Wilcoxon's rank-sum test (Field, 2018).

Regrettably, upon assessing the attributes of this study dataset, it was determined that performing Mann-Whitney U tests was not possible. As such, alternative analyses had to be considered.

Table 7.4: Attributes of Mann-Whitney U tests

Function	Strengths	Weaknesses	Assumptions	Suitability for study
Compare ranked medians for two independent groups when data is non-parametric	1) Sample sizes can be (relatively) small to ANOVAs 2) Normality of distribution is not required 3) Can better account for extreme scores (i.e., *outliers*)	1) Can only compare two sets of data 2) Minimum of five scores in each group to compare* 3) Inadvisable to use if groups have more than 20 scores, each*	1) DV is interval → or ratio data 2) IV consist of two → or more independent, categorical groups 3) Variables are not → normally distributed 4) Individuals are not → assigned to groups 5) The observations → within groups or between groups have no relationship (i.e., *independence of observations*)	1) Assumption met 2) Assumption met 3) Assumption met 4) Assumption met 5) Assumption violated. Because all offenders possessed or distributed IIOC, this demonstrates a relationship between each CSO category

*While not necessarily a required assumption, the attribute is strongly advised for the test to properly function.

Changing focus from the precedent set by McManus et al. (2015), it was found that LIWC-based studies which examined contact-driven and fantasy-driven child sex groomers' chatlogs (i.e., Chiu et al., 2018; Parapar et al. (2012); Siegfried et al., 2019) predominantly used specialised computations and/or algorithms, well beyond the scope of the current study (see Chapter 3, pg.202). In the case of Parapar et al. (2012), however, the researchers also used *logistic regressions* (see Table 7.5), which serve to determine whether measurable variables (i.e., LIWC scores) can identify/predict IVs (i.e., groomer category) (Field, 2018; Sheskin, 2007).

Given the aims of the current research and limitations with its data, however, this study does not intend on making such predictions. Thus, running logistic regressions was not considered.

Table 7.5: Attributes of Logistic Regressions*

Function	Strengths	Weaknesses	Assumptions**
Predicts an observations' likelihood of falling into one of two categories of a dichotomous DV, based on one or more categorical or continuous IV	1) Good accuracy for simple data sets 2) Relatively easy to use 3) Interpret coefficients as indicators of feature importance 4) Extends to multiple classes and a natural probabilistic view of predictions 5) Makes no assumptions about class distributions 7) Provides a measure of predictors' appropriateness and positive or negative relation	1) Construction/ assumption of linearity between DVs and IVs 2) Only useful to predict discrete functions 3) Complex relationships are difficult to obtain 4) If the number of observations is fewer than that of features tests, this may lead to overfitting	1) Interval or ratio data for DV 2) Two or more independent groups for IV 3) The observations between or within groups are unrelated (i.e., *independence of observations*) 4) Categories of DVs are exhaustive and mutually exclusive 5) Linear relations between the logit transformation of DV and continuous IVs

*Although the functions of logistic regressions do not relate to the present study's aims, the attributes of the test were provided nonetheless, to recognise the utility/necessity of such tests in developing an investigative tool.
**Because the use of logistic regressions was not considered, no confirmation of whether the present study met the necessary assumptions was provided.

In need of analysing WYP's dataset with a test similar to the Mann-Whitney U, the study refocused its search to identify several tests with such attributes. To start, it was found that the Friedman test (i.e., Friedman, 1937) similarly operates by comparing differences in rank scores between a sample's groups (Field, 2018; Sheskin, 2007). Unlike with the Mann-Whitney U, however, the Friedman test also requires that the values and/or ranks of DVs are measured on multiple occasions, typically provided by the same sample each time (Field). With this offenders' LIWC scores only being measured once per CSO, therefore, the test ultimately proved unusable (see Table 7.6).

Table 7.6: Attributes of the Friedman test

Function	Strengths	Weaknesses	Assumptions	Suitability for study
Test for differences between two or more related groups using rank sores, when assumptions of one-way ANOVAs (with repeated measures) are violated	1) Suitable for small samples 2) Good for non-parametric data 3) Confidence in significant different group scores relating to broader populations	1) Non-significant results reveal no insights with small samples 2) Converting data to rank scores sacrifices information 3) Random assignment required for groups	1) DV is ordinal, → interval, or ratio 2) One group is → measured on three or more occasions 3) Sample is random → general population	1) Assumption met 2) Assumption violated Each LIWC score was only measured once per offender 3) Assumption violated

Next, the study considered the Kruskal-Wallis H test (i.e., Kruskal & Wallis, 1952), which, similarly to the Mann-Whitney U and Friedman tests, ranks and compares scores between a sample's groups (Field,2018). Promisingly, moreover, the Kruskal-Wallis H test has also proven to be particularly suited to contrast non-parametric data in relation to three or more IV groups. By these standards alone, the test would seem ideal. However, upon further review (see Sheskin, 2007), it was found that the Kruskal-Wallis H test requires several attributes from a study's data which were not shared by WYP's sample (see Table 7.7). Ultimately, therefore, despite its potential the Kruskal-Wallis H test was likewise determined to be unusable.

Table 7.7: Attributes of the Kruskal-Wallis H test

Function	Strengths	Weaknesses	Assumptions	Suitability for study
Test for differences between two or more related groups using rank sores, when assumptions	1) Suitable for small samples 2) Good for non-parametric data 3) Confidence in significant different group	1) Non-significant results reveal no insights with small samples 2) Converting data to rank scores sacrifices information	1) DV is ordinal, → interval, or ratio 2) One group is → measured on three or more occasions	1) Assumption met 2) Assumption violated. Each LIWC score was only measured once per offender

of one-way ANOVAs (with repeated measures) are violated	scores relating to broader populations	3) Random assignment required for groups	3) Sample is random → general population	3) Assumption violated
			4) The observations → within groups or between groups have no relationship (i.e., *independence of observations*)	4) Assumption violated. Because all offenders possessed or distributed IIOC, this demonstrates a relationship between each CSO category

Lastly, after eliminating each of the abovementioned tests (among others), the researcher narrowed their options to two possibilities. By and large, both the Welch's F-test (i.e., Welch, 1951) and the Brown Forsythe test (i.e., Brown & Forsythe, 1974) provide similar functions to other non-parametric tests recently described (see Table 7.8). Crucially, however, rather than rank a sample's scores and/or weigh group variances by size, both the Welch's F test and Brown Forsythe test use the inverse of groups' sample sizes to adjust DV scores by their *degrees of freedom* (Field, 2018; Sheskin, 2007), which refers to the values which scores are free to assume within the limit set by the sum of data points already fixed (Furlong et al., 2000).[150] By making said adjustments, the Welch's F and Brown Forsythe tests account for unequal group sizes and larger groups with bigger variances (Field, 2018; Sheskin, 2007; Tomarken & Serlin, 1986). In essence, this means both tests would allow for this study's LIWC scores to be compared between each offender category, despite disproportionate group sizes transcript lengths. Nonetheless, this is not to suggest the two tests are perfectly equivalent.

[150] Put differently, if two numbers must add up to 100, then the value of the first number can range from 0-100, leaving the value of the second number constrained to whatever it would take to total 100.

Table 7.8: Attributes of the Brown-Forsythe and Welch's F-tests

Test	Function	Strengths	Weaknesses	Assumptions	Suitability for study
Brown-Forsythe test	A non-parametric test used to identify the presence of significant differences among DV scores by adjusting for unequal groups sizes and variances, using the absolute deviation scores of groups' medians	1) Fairly consistent and/or stable when sample includes outliers 2) Well-suited for especially small groups 3) More sensitive than similar tests with detecting within-group variability	1) Low Type 1 error rates, yet presents an increased risk with moderate to large sample sizes or when variances are homogeneous 2) Potentially liberal when with all heterogeneous variance conditions	1) DV is interval or → ratio data 2) IV consist of two → or more categorical groups	1) Assumption met 2) Assumption met
Welch's F-test	Tests whether two independent groups have equal means, for non-parametric data	1) Greatly reduces chances of Type 1 errors 2) Consistent with results across most violations of variance	1) Less accurate with small samples 2) Risk of corruption by outliers	1) DV is interval or → ratio data 2) IV consist of two → or more categorical groups	1) Assumption met 2) Assumption met

In order to perform the Welch's F-test, the only assumptions which must be met are for a study's DV to be interval or ratio data and for the IV consist of two or more categorical groups (Tomarken & Serlin, 1986). Yet, despite being suited for non-parametric studies, the Welch's F-test is relatively less accurate when analysing small samples and accounting for outliers (Tomarken & Serlin). Fortunately, the Brown Forsythe test is well suited for small groups (i.e., average $n < 6$) and is relatively sensitive with detecting within-group and between-group variability, even with the presence of outliers (Sheskin, 2007; Tomarken & Serlin). With that

said, however, Brown Forsythe test has also proven to be slightly more prone to making Type 1 errors than the Welch's F-test when analysing moderate to large samples (Tomarken & Serlin). Yet, these differences have proven largely negligible (Tomarken & Serlin). Taken together, therefore, the Brown Forsythe test was ultimately determined to be the most appropriate for the current research. By itself, however, the test would not provide the study with all of the information it required.

Whenever comparing differences in DV scores of more than two IV groups, tests such as Brown Forsythe analyses are only capable of calculating for the presence of a statistically significant difference; and, even then, may not (clearly) reveal significant disparities in its output (Field, 2018). Indeed, as noted previously, while Brown Forsythe analyses are largely reliable, the test can pose a risk of false significant results (i.e., Type 1 errors). Moreover, when running any statistical test multiple times on differing variables within a common dataset, this can produce artificially inflated chances of obtaining significant results (Eichstaedt, Kovatch, & Maroof, 2013). To account for this, one option is to employ auxiliary tests using rank-order nonparametric procedure (Sheskin, 2007). Simply put, rank-order nonparametric procedure involves calculating unique alphas for each test/variable, often by arranging all results (i.e., *p-values*) then dividing the significance level (i.e., *alpha*) by factors such as the number of tests performed (McLaughlin & Sainani, 2014). To avoid artificially inflating this study's chances of obtaining significant results, therefore, it was determined that the rank-order, nonparametric tests of *Bonferroni* and *Holm-Hochberg corrections* would be performed.

With this said, by themselves rank-order analyses may prove insufficient to account for potential Type 1 and Type 2 errors (Sheskin). For this reason, it is common for studies to conduct *pairwise comparisons* (Field), which contrasts the DV scores between each possible

pairing of a study's IV categories (e.g., LCOs v. MCOs; LCOs v. ECOs; MCOs v. ECOs). After using the Brown Forsythe test to adjust for the variabilities of this study's data, therefore, it was determined that such auxiliary (*post hoc*) comparisons would be performed, in order to affirm whether significant differences in LIWC scores exist between this study's offender categories.

Post hoc analyses

As touched upon above, the power of any statistical test and the rate of making Type 1 and/or 2 errors are inherently linked (Furlong et al., 2000). Consequently, it is essential for researchers to strike a balance between adopting an overly-conservative test—which reduces the risk of false significant results yet increases the chances of false insignificant results—and using an overly-liberal test, which risks the opposite (Field, 2018; Sheskin, 2007). Due to the range of *post hoc* tests available, however, to review all in detail herein would be impractical. For clarity's sake, therefore, a brief summary shall be provided.

With regards to the more liberal tests, both the *least-significant difference* (LSD) pairwise comparison and *Studentized Newman-Keuls* (SNK) procedure are reported to make little adjustment to avoid Type 1 errors (Field, 2018). Alternatively, among the more conservative comparisons, the *Bonferroni's* and *Tukey's tests* were found to strictly control for Type 1 errors, yet lack statistical power in their rigorous computations. Thus, while the Tukey test has demonstrated greater power than common alternatives, such as the *Dunn test* (Furlong et al., 2000; Sheskin, 2007) and the *Sheffé test* (Field), none were deemed sufficient. Regrettably, moreover, where a balance may have been found with the *Ryan, Einot, Gabriel and Welsch Q* (REGWQ) procedure—which has decent power and accounts for Type 1 errors—the test's strengths are severely compromised by unequal samples/groups (Field).

Exploring additional options, this study focused on tests suited for samples with unequal group sizes and population variances. Promisingly, multiple tests were identified. Yet, despite performing decently well with small deviations from normality, in most cases, it was found that these same tests are undermined when both population variances and group sizes greatly differ. To clarify, while the *Hochberg's GT2* and *Gabriel's pairwise comparisons* have proven fit for analysing disproportionate groups, the former test is reported to be greatly weakened when population variances are disproportionate while the latter test is considered more powerful but overly-liberal (Field, 2018). Among the tests which account for differences in population variances, the *Tamhane's T2, Dunnett's T3* and *Dunnet's C* were each considered. Auspiciously, the Tamhane's T2 was found to be reasonably conservative (Field) while Dunnett's T3 and C tests are reported to control for a Type 1 error (Field; Sheskin, 2007).

Even more promisingly, however, it was found that *Games-Howell test* (i.e., Games & Howell, 1976) is widely regarded as the most accurate at making pairwise comparisons (Shingala & Rajyaguru, 2015). While it is argued by some studies that the Games-Howell test is moderately too liberal and is best suited for (relatively) larger samples, the test is overall considered ideal when both group sizes and population variances are unequal (Field, 2018; Shingala & Rajyaguru, 2015). As such, in the end, it was decided that the Games-Howell test would be performed for this study's *post hoc* analyses.

***Section 5*: Quantitative test results**

Descriptive statistics

Firstly, with respects the average CSO transcript, it is worth noting the following. As detailed before (see pg.245), the mean ($\bar{x}$) length of CSOs' chatlogs (N=10) was found to be

1,400 words, decreasing dramatically for Extremely Concerning Offenders (LCOs $\bar{x}$ = 1,293, MCOs $\bar{x}$ = 1,522 and ECOs $\bar{x}$ = 84). In regards to the mean LIWC scores and average variability (i.e., *standard deviation*) of each tested word category, the range within WYPs' sample was likewise found to vary widely (see Table 7.9). To clarify how said scores differed when statistically compared between CSOs' offender categories, the following section reviews the results addressing this study's hypotheses.

Table 7.9: Descriptive statistics of WYP's sample (N=10)

General vocabulary	LIWC variable	Mean score (% of wordcount)	Standard deviation (%)
Pronouns	Pronouns	17.83	7.74
	Personal pronouns	13.92	7.10
	Impersonal pronouns	3.90	2.83
	I	5.53	3.85
	She/he	4.04	4.23
	You	3.72	4.08
Tense and verbs	Verbs	16.13	3.65
	Auxiliary verbs	6.55	2.46
	Past focus	4.62	2.81
	Present focus	11.06	4.39
	Future focus	0.97	0.89
Descriptors	Affect	11.27	8.31
	Positive emotion	7.93	7.48
	Negative emotion	3.33	3.20
	Anger	2.89	3.10
Other	Clout	62.46	33.15

Hypotheses: results and initial implications

Pronoun usage

Hypotheses 1 and 2 of this study predicted that ECOs would use first-person and third-person pronouns with a higher frequency than MCOs, who in turn were expected to use a higher frequency of first-person and third-person pronouns than LCOs. To test these theories, comparisons were made between this study's CSO classifications and their group LIWC scores

(see Appendix J) for the primary word category of *Pronouns*, as well as secondary word categories of *Personal Pronouns*, *Impersonal Pronouns I, She/He* and *You.*[151]

When compared using the Brown-Forsythe test, results revealed no significant differences between CSOs' LIWC scores for the primary word category of Pronouns ($F(2,4.20)= 1.34$, $p=.355$). Likewise, it was found that no significant differences existed among offenders' use of Personal Pronouns ($F(2,3.15)=1.85$, $p=.293$); Impersonal Pronouns ($F(2,5.98)=0.58$, $p=.584$); the word 'I' ($F(2,2.67)=0.93$, $p=.492$); the terms She/He ($F(2,1.06)=0.44$, $p=.725$) or the word 'You' ($F(2,1.31)=3.18$, $p=.314$). To assure that no Type 2 errors had been made, this study then performed Games-Howell post hoc tests, along with Bonferroni and Holm-Hochberg corrections, and once again found no significant differences (see Appendixes G, H and I).

Together, these results fail to support the theory that the ECOs of this sample would share linguistic idiosyncrasies with contact-driven groomers previously examined (i.e., Chiu et al., 2018; Siegfried et al., 2019). Likewise, these findings fail to support the possibility of negative affect/depression or psychopathy disproportionately affecting the mentality and/or vocabulary of more severe CSOs, as linguistic analyses (e.g., Bernard et al., 2016; Tausczik & Pennebaker, 2010) and known risk factors for contact offending (see Ward & Beech, 2006) would indicate.

Verbs usage and tense

Hypothesis 3 of this study expected that ECOs would use a higher frequency of past tense verbs than MCOs, who were predicted to use a higher frequency of past tense verbs than LCOs. As such, comparisons were made between this study's CSO classifications and their LIWC

[151] In addition, statistical analyses were also attempted on the LIWC categories of *We* and *They*. However, because some CSOs within the sample's smaller groups did not use such vocabulary, comparisons could not be performed.

scores (see Appendix J) for the following word categories: *Verbs, Auxiliary verbs, Past focus, Present focus* and *Future focus.*

With respects these variables, Brown-Forsythe tests once again revealed no significant differences between offenders and their LIWC scores in relation to: Verbs ($F(2,2.00)=6.22$, p=.138); Auxiliary verbs ($F(2,2.30)= 0.24$, p=.803); Past focus ($F(2,1.86)=2.15$, p=.327); Present focus ($F(2,1.46)=0.48$, p=.691) and Future focus ($F(2,2.14)=0.64$, p=.603). To assure no Type 2 errors were made, this study then performed Games-Howell tests, as well as Bonferroni and Holm-Hochberg corrections, on each of the aforementioned categories. Crucially, in so doing, each of the aforementioned post hoc analyses found that a significant difference did exist between the scores of MCOs and ECOs, in relation to the LIWC category of Verbs (see Table 7.10-7.12, pg.260). More specifically, upon referring to the samples' LIWC scores, it was found that the chatlogs of MCOs contained a higher percentage (i.e., 18.14%) of action verbs than ECOs' chatlogs (11.08%). As such, this would indicate the Brown-Forsythe test made a Type 2 error for this particular variable.

At present, no explanation (other than transcript lengths and/or edits) can be given to account for the abovementioned significant difference. As reviewed in Chapter 3, Hancock et al.'s (2013) use of Wmatrix did find psychopathic offenders to use past-tense verbs more frequently than non-psychopathic offenders when recounting their crimes. However, this observation neither sufficiently and/or directly clarifies why MCOs would use significantly more general verbs than contact-driven offenders. Further consideration, therefore, is warranted within this final phase of analyses for this research (see Chapter 8).

Table 7.10: Games-Howell test output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.96	2.52	0.598	-30.92	24.99
	ECOs	4.09	2.48	0.46	-27.79	35.97
MCOs	LCOs	2.96	2.52	0.59	-24.99	30.92
	ECOs	7.05	1.36	0.02*	1.70	12.41
ECOs	LCOs	-4.09	2.48	.461	-35.97	27.79
	MCOs	-7.05	1.36	0.02*	-12.41	-1.70

Table 7.11: Holm-Hochberg analyses output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.43	-9.17	3.23
	ECOs	4.09	2.49	0.34	-3.50	11.68
MCOs	LCOs	2.97	2.03	0.43	-3.23	9.17
	ECOs	7.05667*	2.03	0.03	0.86	13.26
ECOs	LCOs	-4.09	2.49	0.34	-11.68	3.50
	MCOs	-7.05667*	2.03	0.03	-13.26	-0.86

Table 7.12: Bonferroni analyses output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.56	-9.31	3.38
	ECOs	4.09	2.49	0.43	-3.68	11.86
MCOs	LCOs	2.97	2.03	0.56	-3.38	9.31
	ECOs	7.05667*	2.03	0.03	0.71	13.40
ECOs	LCOs	-4.09	2.49	0.43	-11.86	3.68
	MCOs	-7.05667*	2.03	0.03	-13.40	-0.71

Descriptor usage

With respects to Hypotheses 4 and 5, it was predicted that ECOs would use a higher frequency of positive and negative emotion words than MCOs, who were expected to use a higher frequency of positive and negative emotion words than LCOs. Thus, comparisons were

made between each CSO classifications and their scores (see Appendix J) in the following LIWC word categories: *Affective Processes, Positive Emotions, Negative Emotions* and *Anger*.[152]

To begin, the Brown-Forsythe tests' results revealed no significant differences between offenders and their LIWC scores for Affective Processes ($F(2,5.32)=0.57$, p=.596); Positive emotion ($F(2,4.16)=0.85$, p=.490); Negative Emotion ($F(2,6.73)=2.18$, p=.186) or Anger ($F(2,6.65)=1.70$, p=.252). Moreover, in the end, output from the study's Games-Howell tests and Bonferroni analyses affirmed that no significant differences existed between the study's CSO categories in relation to any of the aforementioned variables. That being said, as shown within Table 7.13, the study's Holm-Hochberg analyses did reveal a statistically significant difference between the percentages of *affect words* within MCOs and ECOs' chatlogs (i.e., 11.97% and 13.47% respectively).

Table 7.13: Games-Howell test output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.01	5.82	.694	-29.48	19.44
	ECOs	-6.52	5.37	.555	-43.20	30.16
MCOs	LCOs	5.018	5.82	.694	-19.44	29.48
	ECOs	-1.501	5.40	.959	-21.75	18.75
ECOs	LCOs	6.52	5.37	.555	-30.16	43.20
	MCOs	1.50	5.40	.959	-18.75	21.75

Table 7.14: Holm-Hochberg analyses output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.43	-9.17	3.23
	ECOs	4.09	2.49	0.34	-3.50	11.68
MCOs	LCOs	2.97	2.03	0.43	-3.23	9.17
	ECOs	7.05667*	2.03	0.03	0.86	13.26
ECOs	LCOs	-4.09	2.49	0.34	-11.68	3.50
	MCOs	-7.05667*	2.03	0.03	-13.26	-0.86

[152] In addition, statistical analyses were attempted for the LIWC categories of *Anxiety* and *Sadness*. Yet, because some smaller CSO categories did not use such vocabulary, these comparisons could not be made.

Table 7.15: Bonferroni analyses output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.02	7.38	1.00	-28.11	18.07
	ECOs	-6.52	9.04	1.00	-34.80	21.76
MCOs	LCOs	5.02	7.38	1.00	-18.07	28.11
	ECOs	-1.50	7.38	1.00	-24.59	21.59
ECOs	LCOs	6.52	9.04	1.00	-21.76	34.80
	MCOs	1.50	7.38	1.00	-21.59	24.59

Based on the output of this study's post hoc analyses, most results fail to support the theory that ECOs would share linguistic idiosyncrasies with contact-driven groomers examined by Chiu et al. (2018) and Siegfried et al. (2019). Likewise, most of the current research's abovementioned findings fail to support the possibility of psychopathy disproportionately affecting the mentality and/or vocabulary of more severe CSOs, as past linguistic analyses (i.e., Hancock et al., 2013) and known risk factors for contact offending (see Ward & Beech, 2006) would suggest. That said, because the study's ECOs' were found to use significantly more affect-related words than MCOs when Holm-Hochberg analyses were performed, such might indicate a measurable feature within the communications of extremely concerning child sex offenders and/or discoursers. Because no significant differences in the use of affect words were found between MCOs and LCOs or between ECOs and LCOs, however, it remains unclear whether use of affect-related words relate to CSDs and/or CSOs' offending risk or behaviours.

Authoritative tone

In regards to Hypothesis 6, this study predicted that ECOs would express more dominance than MCOs, who themselves were expected to express more dominance than LCOs. As such, comparisons were made between this study's CSO classifications and their LIWC scores (see Appendix J) for the word category of *Clout.* At first, the study's Brown-Forsythe test

results revealed no significant differences between CSO categories and their scores pertaining to Clout ($F(2,3.94)=4.91$, p=.085). However, as was found in relation to CSOs' scores for the LIWC category of Verbs, subsequent Games-Howell testing indicated that a Type 2 error had been made (see Table 7.16). In actuality . a significant difference (p=.037) was found to exist between what percentage of ECOs' chatlogs demonstrated clout (i.e., 95.36%) in comparison to the degree of dominance/authority found within MCOs' transcripts (i.e., 47.20%). To this point, however, no comparable Type 2 error was reported by this study's corresponding Bonferroni and Holm-Hochberg corrections.

Previously, research comparing the language of contact-driven groomers to that of Perverted Justice decoy victims found offenders to have significantly higher LIWC scores in relation to clout (Drouin et al., 2017). Given the nature of these aforementioned comparisons, it is unsurprising that a contact-driven groomer's language would convey more authority and/or dominance than individuals pretending to be young adult and/or children. In relation to the present study, however, this explanation dose not readily apply. Curiously, the current analyses would indicate that even when speaking to fellow child sex discourses, ECOs demonstrate more (attempted) dominance and/or influence than MCOs, but not in this study's least severe category (i.e., LCOs). At present, no explanation (other than transcript lengths and/or edits) can be given to account for this difference. Without a literature serving to provide an explanation, moreover, further consideration is offered within the following chapter.

Table 7.16: Games-Howell test output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	20.03	0.42	-62.81	119.14
	ECOs	-20.00	14.72	0.54	-364.81	324.81
MCOs	LCOs	-28.16	20.037	0.42	-119.14	62.81
	ECOs	-48.16	13.64	0.04*	-95.29	-1.02

ECOs	LCOs	20.00	14.72	0.574	-324.81	364.81
	MCOs	48.16	13.64	0.04*	1.02	95.29

Table 7.17: Holm-Hochberg analyses output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	23.90	0.59	-44.86	101.18
	ECOs	-20.00	29.27	0.87	-109.43	69.43
MCOs	LCOs	-28.16	23.90	0.59	-101.18	44.86
	ECOs	-48.16	23.90	0.21	-121.18	24.86
ECOs	LCOs	20.00	29.27	0.87	-69.43	109.43
	MCOs	48.16	23.90	0.21	-24.86	121.18

Table 7.18: Bonferroni analyses output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	23.90	0.83	-46.58	102.90
	ECOs	-20.00	29.27	1.00	-111.54	71.54
MCOs	LCOs	-28.16	23.90	0.83	-102.90	46.58
	ECOs	-48.16	23.90	0.25	-122.90	26.58
ECOs	LCOs	20.00	29.27	1.00	-71.54	111.54
	MCOs	48.16	23.90	0.25	-26.58	122.90

Section 7: Chapter reflections

Expositions

Within psycholinguistics, contemporary research has shown that peoples' vocabulary can reveal known risk factors for contact sex offences, such as depression (e.g., Bernard et al., 2016) and psychopathy (e.g., Hancock et al., 2013). Relatedly, within online conversations between child sex groomers and their (presumed) victims, both Chiu et al. (2018) and Seigfried-Spellar et al. (2019) found that groomers who attempt to commit physical offences (i.e., content-driven groomers) used significantly more first-person pronouns, negative emotion words and positive emotion words than groomers focused on non-contact offences (i.e., fantasy-driven groomers). In addition, Drouin et al., (2017) found contact-driven groomers to express more dominance (i.e.,

clout) than decoy children. Yet, even so, until the present study, no research had applied such analyses to assessing intercommunications between CSDs or convicted CSOs.

Serving as the second phase of this study's partial mixed methods design, it was decided to analyse the aforementioned linguistic indicators, linked to contact-driven groomers and psychological risk factors for contact sexual offending. Ultimately, such quantitative analyses entailed comparing the LIWC scores of this study's ECOs, MCOs, and LCOs in relation to their use of pronouns, verbs and positive and negative emotion words, as well as their displays of assertiveness and/or dominance (i.e., *clout*). In attempt to mitigate the effects of this study's non-parametric dataset, the Brown-Forsythe test was chosen for all initial statistical analyses. Beyond this, pairwise comparisons using the Games-Howell test were conducted to affirm all results, along with Bonferroni and Holm-Hochberg corrections to account for the effects of repeated testing over multiple variables relating to one dataset.

By themselves, the study's Brown-Forsythe test found no significant results. Upon conducting Games-Howell analyses, however, the tests revealed multiple Type 2 errors. Firstly, it was found that a significantly ($p=0.16$) higher percentage of MCOs' vocabulary (18.14%) fell under LIWC's general *Verb* category, in comparison to ECOs' language (11.08%). Secondly, post hoc analyses revealed that ECOs displayed clout throughout a significantly ($p=.037$) larger portion of their communications (95.36%) than was discerned within MCOs' transcripts (47.20%). As such, these findings suggest that linguistic idiosyncrasies may exist between CSO categories, which could eventually assist with gauging (anonymous) CSDs offending risks and/or histories. However, it is crucial to iterate that no comparable Type 2 error were reported by this study's corresponding Bonferroni and Holm-Hochberg corrections.

With all this said, upon referring to the relevant linguistic literature (see Table 7.1, pg.229), no explanation for the abovementioned findings was readily apparent. After consulting each CSOs' unique LIWC scores (see Appendix K) and chatlogs, however, some clarification was provided. As intended, therefore, to complete this study's final phase of its partial mixed methods design, further consideration will be given to the abovementioned findings by combining and reassessing this study's quantitative and qualitative analyses.

Upcoming sections

Whenever adopting a mixed methodology, numerous factors must be considered in order to obtain the most reliable and thorough results possible. Primarily, however, it is advised that researchers focus to addressing their data's *point(s) of interface* (Guest, 2012). This means recognising how differing elements and/or observations of one's qualitative and quantitative analyses interrelate and critically considering the insights they can provide when assessed at the same time. Given the inherent connection between topics of discussion and people's accompanying language (see Tausczik & Pennebaker, 2010), therefore, not only will scrutinising such variables together help to delve into the nature of CSOs' dialogues, but so will such considerations serve to better discern questions and implications otherwise left unappreciated. For these reasons, the following chapter will primarily focus on reexamining this study's qualitative and quantitative analyses as a collective, following a brief review of this study's aims and inspirations. Subsequently, to address what queries and concerns must be considered when looking to apply or conduct such research, this thesis will then address its limitations, as well as the process and difficulties of acquiring and analysing police data. Afterward, this thesis will conclude by providing recommendations for academics and investigators' future efforts.

Part V
Reconsideration of results and concluding remarks

8. Quantitative and qualitative findings: Combined reassessments

Introduction

Having examined this study's quantitative and qualitative analyses separately, it is now essential to discuss these findings simultaneously. In keeping with the study's mixed methods design, for its final phase, this thesis will reconsider its samples' 47 communicative themes—this time focusing on CSOs' specific vocabulary. Prior to said analyses, however, in recognition of the recently reviewed statistical tests, this chapter will reassess the study's linguistic hypotheses to consider what (alterative) explanations may account for the findings. In turn, this chapter will provide suggestions for future research and bolster this study's unique contribution to literature: using linguistic software to examine CSDs' intercommunications.

Section 1: Statistical tests and thematic analyses

LIWC scores: predictions and results

Before making any linguistic predictions, it was recognised that the distinct vocabulary used by contact-driven groomers when conversing with children (discussed below) might not be present within CSDs' intercommunications. Likewise, it was also acknowledged that WYP's sample might not contain depressed/saddened or psychopathic individuals—who, in turn, would theoretically display specific linguistic indicators. As such, the following section will briefly review this study's hypotheses and readdress the rationale behind these theories. To provide

clarification and context for the statistical tests results, therefore, the researcher compared each CSOs' unique chatlogs and LIWC scores (see Appendix K).

Hypotheses: predictions and results reconsidered

Pronouns

I. Contact-driven groomers are reported to use first-person pronouns more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Likewise, persons with depression and/or negative affects—known risk factors for context sexual offending (see Ward & Beech, 2006)—use more first-person pronouns than individuals with positive affects and/or the general populace (Bernard et al., 2016; Tausczik & Pennebaker, 2010). **Thus, this study predicts its ECOs will use a higher frequency of first-person pronouns than MCOs, who in turn are expected to use a higher frequency of first-person pronouns than LCOs.**

II. Persons with general negative affects tend to use more third-person pronouns than (clinically) depressed individuals and persons with positive affects (Bernard et al. 2016). Because negative affects are known risk factors for context sexual offending (see Ward & Beech, 2006), **this study's ECOs are predicted to use a higher frequency of third-person pronouns than MCOs, who are themselves expected to use a higher frequency of third-person pronouns than LCOs.**

Tense and verbs

III. Psychopathic offenders use past-tense verbs more frequently than non-psychopathic offenders (Hancock et al., 2013). Given that psychopathy and antisocial traits are known risk factors for contact offending (see Briggs et al., 2011; Ward & Beech, 2006), **this study expects its ECOs to use a higher frequency of past tense verbs than MCOs, who are predicted to use a higher frequency of past tense verbs than LCOs.**

Descriptors

IV. Contact-driven groomers use negative emotion words more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Likewise, persons with depression and/or negative affects—known risk factors for context sexual offending (see Ward & Beech, 2006)—use more negative emotion words than individuals with positive affects and/or the general populace (e.g., Bernard et al., 2016). **Thus, this study predicts its ECOs will use a higher frequency of negative emotion words than MCOs, who themselves are expected to use a higher frequency of negative emotion words than LCOs.**

V. Contact-driven groomers use positive emotion words more frequently than fantasy-driven groomers (Chiu et al., 2018; Siegfried et al., 2019). Additionally, persons with psychopathy—a known risk factors for context sexual offending (see Briggs et al., 2011; Ward & Beech, 2006)— use positive emotion words more frequently than non-psychopaths (Hancock et al., 2013). Taken together, these findings indicate positive emotion words may be used with greater frequency among more severe CSOs. Relatedly, research also finds that neither depression nor positive affects correspond with significantly different frequencies of positive emotion words (Bernard et al., 2016). **Ultimately, therefore, this study's ECOs were predicted to exhibit a higher frequency of positive emotion words than MCOs, who were predicted to use a higher frequency of positive emotion words than LCOs.**

Other

VI. Contact-driven groomers are found to be more dominate and/or assertive (i.e., express more *clout*) than decoy victims (Drouin et al., 2017). Additionally, research has noted social hierarchies among CSDs' online communities (Linehan et al., 2001) while CSO syndicates hold individuals who commit contact offences in higher regards (Cockbain et al., 2014). **As such, this study's ECOs were predicted to express more dominance than MCOs, who themselves were expected to express more dominance than LCOs.**

Hypothesis 1 & 2: Pronouns

As explained in Chapter 3, the significantly more frequent use of first-person pronouns by contact-driven groomers (opposed to fantasy-driven groomers), is attributed to instances of self-disclosure, made in attempt to garner victims' trust (Chiu et al., 2018; Siegfried et al., 2019). Owing to this research, despite the fact that WYPs' sample of offenders were communicating with CSDs, this study predicted that its ECOs would use more first-person pronouns than either MCOs or LCOs. However, as detailed, no significant results were found.

Upon examining each offender's personal chatlogs and LIWC scores, it was observed that while CSOs from every offender category displayed instances of (apparent) self-disclosure and rapport (see Chapter 6), the context of said exchanges was distinct from contact-driven groomers' dialogue with potential victims. More specifically, while it was found that use of the term '*I*' did often appear within each offenders' instances of self-disclosure, these comments specifically detailed CSOs' (alleged) sexual preferences, experiences or opinions. As such, this observation could be owed to the general nature of CSD intercommunications or as a result of this study's exclusion of all non-sexual comments. That said, it should also be noted that in attempts to establish trust, CSOs' regularly resorted to sharing illicit media, rather than making (seemingly) confiding statements. Thus, this tendency could further account for why first-person pronoun use was not linked to any offender category.

Next, as likewise discussed within Chapter 3, it has been found that as depression draws sufferers' attention inwards, people use first-person pronouns significantly more (Bernard et al. 2016). In addition, individuals with general negative affects use more third-person pronouns than those who are (clinically) depressed or have positive affects (Bernard et al.). Because negative emotions are known risk factors for physical sex offending (see Ward & Beech, 2006), this study

predicted that its ECOs would display similar psycholinguistic features. Once more, however, quantitative analyses revealed no significant differences between offender categories and CSOs' use of pronouns. As such, this indicates either a lack of (chronic) negative emotions among WYP's sample or a discrepancy between past psycholinguistic research and the current study's findings. With respects to CSOs' use of impersonal pronouns, however, the offenders' unique LIWC scores did yield interesting results.

Firstly, it is worth noting that this study's contact ECOs had the highest third-person singular pronoun (e.g., *he, she, him, her,* etc.) score, with 14.00% of their total wordcount. Not only is this score more than double the next highest (i.e., an MCOs with 5.77%), but it was found that this study's groomer ECOs scored 0.00%. Upon considering why this might be, it was observed that the chatlog of the contact ECOs was primarily composed of confessions and questions about abusing children, for which the CSO would often adopt victims' perspectives (see Chapter 6). As such, much of the offender's statements which involved terms such as 'he' and 'him' were referring to real and hypothetical victims. By contrast, none of this study's other offenders' made statements which adopted children's perspectives, and often referred to children by using derogatory terms (e.g., 'bitch', 'slut', 'whore', etc.). Because of this, future research should examine whether such statements and frequent usage of third-person singular pronouns are common features in CSDs intercommunications or significantly relate to contact offending tendencies and/or histories.

Secondly, with respects to this study's groomer ECO, it is worth noting that their use of second-person pronouns (e.g., *you, your, yours,* etc.) was particularly high scoring. To clarify, while this study's contact ECO had a LIWC score of 6.00% and one MCOs had the sample's second highest score of 7.80%, the groomer use of second-person pronouns registered at 13.56%.

From this, it was found that the groomers' use of second-person pronouns appeared to relate to their search for IIOC and to sexually interface with fellow chatroom users. Moreover, while the prevalence of communicative themes were not measured or compared for this study's analyses, it was nonetheless observed that requests for sexually explicit content and/or interactions were particularly prevalent among the transcript of this study's groomer. Thus, such statements (partially) account for the offender's especially frequent use of second-person pronouns, and may relate to the CSOs' general communication style when requesting illicit material from children. To this point, it might also be that the groomer's use of second-person pronouns denotes the presence of children on the chatroom they were using. Whichever the case, if there is a chance this linguistic idiosyncrasy can be used to identify (contact-driven) groomers among general CSDs, this possibility warrants further research.

Hypothesis 3: Tense and verbs

To review, research using Wmatrix software to examine the vocabulary of Canadian, male murderers found psychopathic offenders to use significantly more past-tense verbs than non-psychopaths when describing their homicides (Hancock et al., 2013). As such, the aforementioned study theorised that this use of language was owed to psychopaths' emotional detachment and/or dismissive attitudes (Hancock et al.). Crucially, moreover, antisocial mentalities are linked to an increased risk of physical sex offending (see Briggs et al., 2011; Ward & Beech, 2006). For this reason, it was hypothesised that this study's ECOs would be more likely to have psychopathic tendencies and (consequently) use significantly more past tense verbs than MCOs—who were expected to score higher than LCOs. However, after comparing these variables, the results proved more complicated than expected.

As previously stated, in relation to LIWC's *past, present and future focus* variables, no statistically significant differences were found. In turn, this could indicate several things, including: 1) a lack of psychopaths among WYP's sample, 2) differing linguistic indicators of psychopath for murderers and child sex offenders or 3) discrepancies between using Wmatrix and LIWC. To this point, upon reexamining offenders' transcripts and individual LIWC scores (see Appendix K), no peculiar patterns relating to CSOs' tones were observed. Because psychopaths are noted to use past-tense verbs (i.e., Hancock et al., 2013), however, so were the LIWC scores for *regular verbs* compared between this study's CSO. Interestingly, it was found that MCOs scored significantly higher (p=.016) than ECOs (i.e., 18.14% v 11.08%).

Unsure why this might be, the researcher referred back to offenders' transcripts and individual LIWC scores, yet could not discern an explanation for any significant findings. Among all CSOs within WYP's sample, offenders were found to use sexually themed verbs with regularity, indicating such wording to be typical within dialogue between CSDs. The most likely explanation for the difference between MCOs and ECOs' use of verbs, therefore, is the vast disparity in their average transcript lengths.[153] Alternatively, because LIWC (2015) cannot account for syntax, it is possible that relatively ambiguous words (e.g., *fuck*) were also sorted as verbs when not used within such contexts. This being said, it is also worth iterating that this sample's contact ECO was distinctly interested in the emotions of victims and fellow offenders, equally or more so than their alleged acts. Thus, this manifest difference among offenders' use of verbs should be researched further, to confirm whether the finding would be unique to this study or a general trend which might be used to assess CSDs' (potential) offending histories.

[153] Average transcript lengths for this study's sample: LCOs $\bar{x}$ = 1,293 words; MCOs $\bar{x}$ = 1,522 words and ECOs $\bar{x}$ = 84 words.

Hypotheses 4 & 5: Positive & negative descriptors

In addition to their especially frequent pronoun use, it has previously been found that contact-driven groomers use significantly more positive and negative emotion words than fantasy-driven groomers, when fostering relationships with (potential) victims (Chiu et al., 2018; Siegfried et al., 2019). Beyond this, persons with depression or milder negative affects—both of which are known risk factors for (physical) sex offending (see Ward & Beech, 2006)—similarly use significantly more negative emotion words than the general populace (Bernard et al., 2016).[154] As such, this study predicted its ECOs would use more negative and positive emotion words than MCOs, who were expected to score higher than LCOs. Once again, however, these comparisons proved insignificant.

In seeking further insight, the researcher found several interesting points. To begin, despite contact-driven groomers being linked to using more negative emotion words (i.e., Chiu et al., 2018; Siegfried et al., 2019), this study found that it was MCOs who used the most negative words—albeit to an insignificant degree. Upon checking why this might be, it was observed that MCOs tended to express a relatively wider range of emotions, especially when seeking illicit media (e.g., anger, boredom, impatience, etc.). As such, it might be that in order to prompt fellow CSDs to share or produce illicit media, MCOs use similar tactics to influence other chatroom users as contact-driven groomers with children. Given that this study's LCOs were likewise found to acquire illicit media by expressing various emotions, however, this reasoning remains specious. One alternative theory, therefore, is that because some MCOs would label themselves and other CSDs 'bad' in an ironic sense (i.e., 'I know. I'm so bad) or would use negative emotions when describing sadistic attractions, this may have impacted individuals'

[154] It should be clarified that a person's affect was not found to associated with using significantly more or less positive emotional words (Bernard et al. 2016).

LIWC scores. That being said, it should also be noted that the MCOs of Case 8, who expressed arousal at the thought of raping an infant to death, also scored the highest in LIWC's category of *anger*—with 11.11%, opposed the second highest score of 6.25% attributed to another MCO. Interestingly, however, similarly high anger or negative emotion LIWC scores were not found among other offenders who expressed interest in violent rape (of toddlers or teenagers). Thus, this variable warrants future consideration, despite not being found statistically significant.

Relatedly, it is also worth noting that although no significant differences were found between this study's offender categories, the two ECOs tended to use more positive words. To clarify, it was calculated that this study's child sex groomer had the second highest positive emotion score of 16.95%, while the sample's contact offender had the third highest score (i.e., 8.00%), coming only after the MCO of Case 6 (i.e., 25.00%)—who had the shortest transcript of the dataset (i.e., 16 words). In and of itself, these results are not enough to indicate that this study's ECOs displayed similar linguistic idiosyncrasies as contact-driven groomers (when communicating with (presumed) victims). Nonetheless, it was found that this study's groomer regularly used positive emotion words (e.g., 'good,' 'nice,' 'great,' etc.) when attempting to acquire (more) sexual media from chatroom users. Taken together, these results could suggest that contact-driven groomers may have distinct linguistic features when collecting sexual media and/or IIOC—whoever the audience. Relatedly, so might the finding indicate the presence of children on the chatroom which this study's groomer was using.[155] For clarification, therefore, this observation deserves further research.

In addition, it is important to consider the relatively frequent use of positive emotion words by this study's contact offender. Interestingly, while the entire tone of the ECO's chatlog

[155] Another indication of children on the chatroom is the groomer ECO's previously discussed tendency to decrease their reported age from 43 to 42 to 23 and ultimately 20-years-old (see Chapter 6).

read as positive, the majority of their overtly emotional language (e.g., 'nice,' 'love,' 'fantastic,' etc.) was used when adopting their victim's views or generally romanticising child sexual abuse. As discussed within Chapter 6, comments of this nature were distinctive of the study's contact offender, and (seemingly) demonstrate an example of a cognitive distortion and/or technique of neturalisation. Previously, however, no comparable research has noted such comments to be part of CSDs' intercommunications. Given that dysfunctional schemas are known risk factors for contact sexual offending (see Ward & Beech, 2006), moreover, the nature of CSDs' positive emotion words and cognitive distortions should be examined in the future, despite no statistically significant results herein.

Hypothesis 6: Clout

Lastly, in relation to this study's remaining linguistic hypothesis, it has been found that child sex groomers score significantly higher within the LIWC variable *clout* (i.e., dominance) than decoy victims (Drouin et al., 2017). In addition, research into CSDs (e.g., Linehan et al., 2001) has noted such online communities to develop social hierarchies, while CSO syndicates reportedly hold (credible) contact offenders in higher regards (Cockbain et al., 2014). As such, this study's ECOs were predicted to score higher in clout than MCOs, who were expected to score higher than LCOs. Intriguingly, however, this prediction only proved partially accurate.

Although this study's ECOs were found to score significantly higher ($p=.037$) in clout than MCOs (i.e., 95.36% v. 47.20%, respectively) no significant differences were found in comparison with LCOs (75.36%). In turn, this would suggest that while high scores in clout may be indicative of contact-offending risks/tendencies, the variable would not help gauge the nature or severity among fantasy-driven offenders. Moreover, because no indications of social hierarchies were discerned within WYPs' sample, this study's hypothesis that higher statuses

among contact-driven offenders might inflate ECOs' display (and scores) in clout did not prove accurate. As such, in attempt to explain these significant findings, the researcher examined each CSOs' chatlogs and personal clout scores (see Appendix K).

In regards to this study's groomer, it was found that in addition to compliments when encouraging others to perform sexual acts and/or share explicit media, so was the offender blunt and demanding. As such, in combination with their relatively short transcript, these comments were the most apparent explanation for the groomer ECO's high score in clout. Interestingly, therefore, this would suggest that such offenders might use similar language when seeking explicit content from either CSDs and potential victims. By extension, it might also be that the language of this study's groomer indicated the presence of children on the chatroom.

Curiously, moreover, the study's contact ECO scored almost as high in the variable of clout. Yet, although this was predicted, the ECO's romanticised posts of child sex abuse made their high score for dominance somewhat difficult to account for. However, upon reconsidering the offenders' messages, it was found that they often use phrases which expressed power and/or ownership over victims (e.g., 'Once a boy lets you do that, you know their yours'). Therefore, in combination with this contact ECO's short transcript, their high score in clout makes sense. To this point, however, it is also worth noting that the MCO of Case 3 and the LCO of Case 5 scored almost nearly as high. As such, further examination is required to verify whether this finding is indicative of CSDs' typical language or an idiosyncrasy of ECOs.

Section 2: Thematic categories and additional LIWC results

Introduction

As previously examined, this study's Content and Discourse Analyses yielded 47 thematic categories, hierarchically ranked between seven *primary* themes, 19 *secondary* themes and 21 *tertiary* themes, proceeding from the broadest to the most specific (see Table 8.1).[156] Given this volume of findings, the following reassessment will primarily focus on the higher-order themes, offering brief summarisations along with linguistic observations. Much like when reexamining this study's statistical tests, therefore, the researcher considered each offender's chatlogs and personal LIWC scores (see Appendix K).

Table 8.1: Communicative themes and subthemes

Thematic tiers	Condition	Sexual Interests	Claims	Fantasies	Pursuits	Caution	Justifications
Generality / Specificity Primary Themes	Physical state/stage	IIOC Commentary	Non-offences	Improvisations	Stimuli	Secrecy	Enjoyment/ want
	Offender's Psychology	Identification/ Specification	Deviances	Narrations	Media	Security	Entitlement
	Reactions	Actions	Experiences	Urges	Interfacing		Extenuation
Secondary Themes		Paraphernalia	Offences		Encouragement		
		Victim Preferences	Child offences		Rapport		
		Children's physiques	Victim access		Curiosity		
		Ages of Attraction	Denials		Courting		
		Wishful Situations	Animal Abuse				
Tertiary Themes		Envy	Adult Relationships				
		Conditions and Context	Significant Others				
			Sexual Partners				
			Confederates				

[156] For a visual representation, see Appendix E.

Primary theme 1: Condition

In relation to the primary theme of *Condition*, comments of this nature were defined as: details and/or descriptions regarding CSOs' personal states, as well as expressions conveying emotional responses elicited by stimuli. Found within the majority of CSOs' chatlogs and appearing to be common within CSDs' general dialogue, comments of this nature were made by offenders from each category, and led to the identification of several second-tier subthemes, including: *Physical State/Stage, Offender's Psychology* and *Reaction*. Inasmuch, these results largely corresponded with past CSD-focused studies, which report chatroom users to share comments on their sexual states and responses to explicit content (i.e., Holt et al., 2010; Malesky & Ennis, 2004; McManus et al., 2015). However, with respect to observing that CSOs from each offender category made comments on the topic of their mentality and/or emotional states, no equivalent finding has (seemingly) been reported in past studies. Given that various psychological ailments have been linked to increased risks of contact sexual offending (see Briggs et al., 2011; Ward & Beech, 2006), therefore, future research would benefit from examining this observation further, in the chance it can be used by investigators.

With this said, in relation to *Condition*-statements' linguistic components, in almost every instance, CSOs' comments were brief, numbering only a few words long. As such, no linguistic peculiarities were found. To clarify, whether commenting on their body, mentality, or emotional responses to explicit content, most CSOs' vocabulary largely consisted of sexual nouns (e.g., 'penis', 'dick', 'cum', etc.), adjectives (e.g., 'hard', 'horny', 'wet', etc.) or verbs (e.g., 'masturbating', 'fucking', 'ejaculating', etc.), along with frequent exclamations (e.g., 'wow', 'yes', 'love it', etc.). As such, these observations would suggest such themes and corresponding language is typical of CSDs do not hold much promise for distinguishing potential

or especially severe offenders. Indeed, this conclusion is further supported by the lack of statistically significant differences between contact and non-contact offenders' *Sexual self* statements reported within McManus et al. (2015).

Primary theme 2: Sexual Interests

As pertains to CSOs' primary communicative theme of *Sexual Interests,* it was found that every subject in WYP's sample made comments directly or indirectly acknowledging stimuli or situations which they found sexually arousing and/or desirous, without demonstrating an active use of imagination (i.e., *Fantasies*). Owing to the scope of this theme, however, ultimately a total of three second-tier themes (i.e., *IIOC Commentary*, *Victim Preferences* and *Wishful Situations*) and seven third-tier themes (detailed below) were discerned. Moreover, when examined with this study's linguistic analyses, several interesting observations were made.

IIOC Commentary

As designated by the subtheme of *IIOC Commentary*, it was found that both of this study's LCOs, five MCOs and the groomer ECO made references to specific sexual videos or images involving children. Inasmuch, such comments would appear to be prevalent within CSDs' general dialogue. Bolstering this assessment, similar communicative themes have been reported in multiple CSD-focused studies (see Chapter 3). Crucially, statistical tests run by McManus et al., (2015) revealed that a comparable communicative theme identified among their sample of CSOs (i.e., *Media*) bore no significant relationship to individuals' contact or non-contact offending histories. While this study's qualitative analyses similarly found no link between CSOs' severity and comments on child sexual media, it is worth iterating that among offenders' *IIOC Commentary* several third-tier thematic categories were found, including:

Identification/Specification, *Paraphernalia* and *Actions*. In essence, these tertiary themes pertained to singling out children, objects, or acts within IIOC.

With respects to linguistically examining offenders' *IIOC Commentary*, it was found that within WYP's entire dataset, never did any offender use the words *child* or *children*. Instead, when referring to either underage persons or illicit pornographic videos or images, the term most commonly used was *young* (e.g., 'As I said I need top quality picture of young and video'). Additionally, however, it was found that LCOs and MCOs would often use insulting labels (e.g., 'bitch,' 'slut,' 'whore', etc.) as well as patronising terms (e.g., 'boys,' 'girls,' 'babies,' etc.). To this point, it was observed that ECOs only used these latter, milder labels. As such, it might be that offenders' substation of the term *child* for relatively demeaning or dehumanising labels demonstrates personal or communal cognitive distortions to avoid recognising the seriousness of child sex offences. Going forward, therefore, studies should examine CSDs' parlance for evidence of dysfunctional schemas and (potential) links to individuals' offending tendencies.

Beyond these abovementioned findings, another notable observation was one offender's use of photography and/or cinematography-related jargon within their *IIOC Commentary*. To clarify, it was found that the LCO of Case 5 would use semi-professional terminology when referring to poses struck by children, labelling victims as 'pros/professional(s)' and claiming to have attended 'shoots' (i.e., recordings) of illicit videos. Given that this offender was charged with distributing and possessing IIOC, but not its production, it is worthwhile for future research to consider whether semi-professional jargon can help assess the nature and/or extent of individuals IIOC offences.

Victim Preferences

Next, in relation to second-tier theme of *Victim Preferences* (under *Sexual Interests*), it was found that all of this study's offenders, except for the child sex groomer, would specify ideal and/or particularly desirable attributes about hypothetical victims, without reference to, or (direct), inspiration from IIOC. Consequently, this indicates such comments to be prevalent within CSDs' intercommunications and led to the development of two third-tier categories: *Children's Physiques* and *Ages of Attraction*. Inasmuch, these observations were consistent with findings previously discussed in CSD-focused research (see Chapter 3). To this point, within McManus et al., (2015), the most comparable communicative theme was determined to be *Sexual Preferences*. However, when the prevalence of such statements were compared between contact or non-contact offenders, McManus et al. found no significant difference.

Similarly, within the present study, no evident differences between CSOs' *Victim Preference* statements and their offender categories were noted. That being said, upon considering offenders' language, it was observed that two CSOs' were especially specific when describing their preferred physical attributes on children. First among this subsample, was the contact ECO, who detailed their ideal length of children's phalluses (i.e., 'I love 3 inch cock')—which matched descriptions of the CSOs' confirmed victim. Relatedly, it was found that the LCO of Case 5 specified their preferred nipple size on underage females (i.e., 'ten to fifty pence sized'). Critically, moreover, so was this LCO alone in openly claiming they had attended a recording of IIOC; and, in turn, described the size of the (alleged) victims' nipples. Given the specificity of these two offenders' *Victim Preference* statements, and their connection to details within the CSOs verified confessions, future studies would benefit from considering if such language can help assess the danger of a CSD and/or the validity of their offending claims.

Wishful Situations

Lastly, with respect to second-tier theme of *Wishful Situations* (under *Sexual Interests*), it was observed that one LCO and three MCOs acknowledged sexual acts which they would find especially appealing, without actively engaging with their imagination (i.e., *Fantasies*). More specifically, this thematic category was broken into multiple, third-tier themes, acknowledging ideal, hypothetical scenarios (i.e., *Conditions and Context*) or expressing jealousy toward other CSDs/CSOs (i.e., *Envy*). By and large, numerous past studies have identified themes comparable to the category of *Wishful Situations* (see Chapters 3 and 6); although, to the researcher's knowledge, no other study has expressly noted comments conveying jealousy. In the end, however, all statements classified under *Wishful Situations* herein were found to be blunt and/or straightforward (i.e., 'Lucky guy!! nice how he used her [victim of IIOC] little cunt to get himself off'). Ultimately, therefore, while statements akin to *Wishful Situations* appear common within CSDs' general communications, while no notable linguistic features were found.

Primary theme 3: Claims

Switching focus to this study's primary theme of *Claims,* it was found that eight CSOs (excluding the groomer ECO and one MCO), would comment on sexual acts, occurrences and/or events which they alleged to have performed or experienced. Among these statements, it was determined that three second-tier themes (i.e., *Non-offences*, *Offences* and *Adult Relationships*) and nine third-tier themes (reviewed below) were present. As discussed within Chapters 3 and 6, in essence, these communicative themes greatly relate to others identified within past CSD-focused research (e.g., Holt et al., 2010; Malesky & Ennis, 2004; McManus et al., 2015). Most notably, McManus et al. found that non-sexual CSOs mentioned adult (sexual) relationships

significantly more than contact offenders. To that point, within the present study, it was similarly found that only non-contact offenders (i.e., LCOs and MCOs) mentioned adult relationships.

Beyond the aforementioned observations, as previously mentioned, was found that this study's contact ECO was the only offender within the sample to adopt their victim's perspective and use a (superficially) romantic tone when admitting to abuse. Based on this observation, it would seem that romanticised comments are particularly uncommon among the general dialogue between CSDs. As such, future research would benefit from examining whether such narratives and accompanying language (e.g., 'love', 'kissing', 'cuddling', 'intimate', etc.) might help assess CSDs' (contact) offending tendencies.

In relation to linguistic observations, it is important to confirm that when CSOs wrote about their (alleged) offences, they used past, present and future tenses. Unlike what was predicted, therefore, no vocabulary indicative of psychopathy (see Hancock et al., 2013), was found among WYPs' sample. Moreover, no alternative linguistic idiosyncrasies were observed in relation to CSOs' statements categorised under *Non-offences* or its subthemes (i.e., *Deviances* and *Experiences*). Regrettably, the same can be said for comments under *Adult Relationships* or its subthemes (i.e., *Significant Others, Sexual Partners* and *Confederates*). With regards to CSOs' *Offence*-related statements and its subthemes (i.e., *Child offences, Victim Access, Denials* and *Animal Abuse*), however, one potentially relevant linguistic feature was gleaned.

Upon reviewing individual offenders LIWC scores (see Appendix K), the contact ECO was found to have the second highest *affiliation* score (i.e., 10.00%)—a word category pertaining to vocabulary indicative of the desire, presence or awareness of interpersonal relationships. This observation is worth noting because all affiliation-related terms used by the contact ECO (e.g., 'intimate', 'boyfriend', 'share', etc.) were found in relation to describing the offender's actions

and relationship(s) with victim(s). Yet, with respects to the other COs who made contact sex offence claims (i.e., Cases 2, 4, 5 and 10), they did not score nearly as high or use affiliation terms in relation to their alleged victims (i.e., 2.15%, 2.78%, 2.86% and 0.68%, respectively).

To this point, it is also critical to note that Cases 2, 4 and 5 scored lower than the contact offender within the word category of affiliation, despite the fact that LCOs and MCOs made comments about family and/or friends (while the contact ECO did not). As such, this would suggest that there are notable (potentially significant) linguistic differences in the manner in which contact and non-contact offenders make claims about physical sexual offences. In the future, therefore, research would benefit from examining whether (relatively) high scores in LIWC's category of affiliation might help assess the legitimacy of CSDs' contact offence claims.

Primary theme 4: Fantasies

With relation to this study's higher-order theme of *Fantasies*, it was found that one LCO, three MCOs, and the contact ECO exhibited conscious engagement with their imaginations to describe hypothetical/fictitious scenarios, as if they were possible or actually occurring. From these communications, moreover, the following subthemes were discerned: *Improvisations*, *Narrations* and *Urges*. As discussed in Chapter 2, research into online chatrooms (i.e., Young, 2001; 2008; 2010) indirectly suggested such dialogue would be found. Likewise, as reviewed within Chapter 3, multiple CSD-focused studies similarly report fantasy-related communications (e.g., Holt et al., 2010; McManus et al., 2015). Although hardly the most prevalent statements found within WYP's dataset, therefore, comments of a fantasy nature (as herein defined) would appear to be expected among CSDs' general intercommunications. Nonetheless, apart from the contact ECO's tendency to adopt children's perspectives, no potential link between sexual fantasies' presence or content and CSOs' relative severity were discerned.

With that being said, one additional observation worth mentioning is offenders' LIWC scores for *cognitive processes* (see Appendix K). Following this study's qualitative and quantitative analyses, it was expected that CSOs who expressed fantasies would score relatively high in the word category of cognitive processes. By and large, however, it was found that most CSOs' (n=9) had fairly consistent scores (i.e., 6.80-11.02%). However, with regard to the contact ECO, only 2% of their vocabulary was sorted into LIWC's cognitive process category.

To explain these results, the researcher referred back to offenders' chatlogs. What was observed was that most cognitive process words (e.g., *think, maybe, know,* etc.) were not used in relation to CSOs' fantasies. Instead, most cognitive process vocabulary used by CSOs pertained to expressions of personal views, opinions and/or interpretations on sexual matters. Interestingly, however, it was also observed that this was only true for this study's non-contact offenders, who used cognitive process words with regularity (i.e., 'I **think** there are a lot of young girls who love cock'). By contrast, this study's contact ECO wrote in absolutes, phrasing personal sentiments as facts (i.e., 'he [male victim] loves kissing and cuddling too').

In turn, this distinction might pertain to differing cognitive distortions between contact and non-contact offenders, as well as dysfunctional schemas and/or techniques of neutralisation previously mentioned. Given that this study's sample did not allow for a more in-depth comparison, however, future research would benefit from examining such possibilities further. If proven true, the LIWC variable of *cognitive process* might help assess CSDs' offending tendencies. However, this study's thematic category of *Fantasies* overall does not display similar promise. Nor, it should be mentioned, were significant differences in the prevalence of contact and non-contact CSOs' child sex fantasies found within McManus et al.'s (2015) analyses.

Primary theme 5: Pursuits

Next, with respect to this study's primary theme of *Pursuits*, it was observed that every CSO within WYP's sample made statements in efforts to achieve some aim. More specifically, among such comments, two second-tier themes (i.e., *Stimuli* and *Rapport*) and five third-tier themes (listed promptly) were also found. When compared to past studies (i.e., Cockbain et al., 2014; Holt et al., 2010; Lambert & O'Halloran, 2008; O'Halloran & Quayle, 2010; Malesky & Ennis, 2004; McManus et al., 2015), similar exchanges have been documented in relation to CSDs and/or CSOs seeking sexual stimuli and attempting to foster (sexual) relationships online. Taken together, these findings suggest comments classifiable under the theme of *Pursuits* (as herein defined) are common within CSDs' general intercommunications

As previously discussed in Chapter 6, one observation made in regard to *Stimuli*-related comments was that among its subthemes (i.e., *Media*, *Interfacing* and *Encouragement*), only the contact ECO did not make statements seeking IIOC, eliciting live interactions online or influencing the actions of fellow CSDs. Given that previous research (e.g., Cockbain et al., 2014; McManus et al., 2015) has already verified contact offenders to make such comments, however, the lack of *Stimuli*-related statements from this study's contact ECO is likely owed to WYP's specific sample. Yet, as noted within Chapter 6, it is recognised that the specific method used to acquire IIOC by this study's non-contact offenders (for Cases 1, 3, 4, 5, 6, 7, 8 and 10) might relate to their offences of possessing, distributing and producing such media.

To this latter point, upon reviewing offenders' LIWC scores, it was noted that this study's groomer ECO had the highest score (i.e., 5.93%) in the *reward focus* word category, relating to language used in relation to achieving goals (i.e., 'lucky', 'getting', 'want,' etc.). To clarify, the next highest score was 2.98%, by the LCO of Case 2 (see Appendix K). Although this variable

was not statistically tested for significance, it is nonetheless worth iterating that, groomer ECO was the only offender within WYP's sample convicted for actively attempting to meet with (and abuse) victims offline. Thus, despite speaking with fellow CSDs at the time, this high LIWC score might be an extension or indication of the ECO's grooming (i.e., reward focused) behaviour. Likewise, so might the offenders' high score (and focus on finding victims) be indicative of the presence of children on the chatroom. As such, future research into chats both between CSDs and between groomers and (presumed) victims should examine whether the 'reward focused' LIWC word category can help identify especially concerning (i.e., contact-driven) offenders.

Shifting focus to the second-tier theme of *Rapport* (under *Pursuits*) it was found that this study's groomer had the second highest score in the LIWC word category *inquisition*, pertaining to vocabulary indicative of questioning others (e.g., *what*, *how*, *who*, etc.). More specifically, it was found that 5.80% of the ECO's words were grouped within this category, while the MCO of Case 6 scored 6.25% (out of their 16-word transcript) and the third highest score belonged to the MCO of Case 3, with 2.73% of their 10,157-word transcript (see Appendix K). This is noteworthy for similar reasons to those provided above. Although the groomer ECO was not found to make flirtatious/romantic advances (i.e., *Courting* statements) towards fellow adults (as they might otherwise do with children), their chatlog was rife with examples of the groomer enquiring into CSDs' personal (sex) lives (i.e., *Curiosity* statements). As such, these enquiries (seemingly) account for most of the ECO's inquisition-categorised words. Furthermore, these *Curiosity*-related statements were commonly made by the groomer while attempting to acquire IIOC. In this sense, the offenders' queries into CSDs' personal (sex) lives read as if the groomer were attempting to procure sexual media by establishing a (superficial) connection (i.e., 'U (sic)

horny? Got pics for me?'). While similar exchanges were found within other offenders' transcripts, therefore, future research should examine whether the LIWC word category of 'inquisition' might help to discern (contact-driven) groomers on CSD chatrooms.[157]

Primary theme 6: Caution

Speaking to this study's primary theme of *Caution*, it was found that one LCO and four MCOs remarked on the importance of keeping compromising information private (i.e., *Secrecy* statements) or commented on safeguards taken to avoid or thwart the discovery of deviant and/or legally compromising information (i.e., *Security* statements). Overall, such messages were found to be terse and straightforward, bearing no (overt) relevance to CSOs' offender categories. Additionally, it is worth noting that Holt et al. (2010) reported comparable findings, suggesting *Caution*-related remarks to be an expected, if not common, theme within CSDs' general communications. That being said, one distinct observation was made by the present study.

In relation to the four offenders who made *Caution*-related statements, it is worth noting that three (i.e., excluding the MCO from Case 7) had the highest LIWC scores in the *risk/ prevention focus* word category (see Appendix K). In essence, this word category relates to vocabulary which demonstrates users' recognition of threats (e.g., *risky, careful, danger,* etc.). As such, it is particularly interesting that, unlike the lower-scoring MCO of Case 7, each of the aforementioned three high-scoring CSOs' also made claims about committing contact child sex offences. Owing to this, future research should consider whether the LIWC's 'risk/prevention focus' word category might help assess the legitimacy of CSDs claims, and thereby help investigators identify particularly dangerous persons.

[157] In addition, it should be noted that the child sex groomer's writing style and/or LIWC scores may have been influenced by the presence of children on the chatroom as well.

Primary theme 7: Justifications

Lastly, to conclude this chapter's analyses, it was found that one LCO, one MCO and the sole contact ECO expressed beliefs, assumptions or assertions which allayed or defended deviant thoughts and/or behaviours. As such, these statements came to comprise this study's seventh primary theme, *Justification,* and its three subthemes (i.e., *Enjoyment/ want*, *Extenuation* and *Entitlement*). To review, it was found that each of the aforementioned CSOs would make *Enjoyment/want*-related remarks, claiming children consider sexual acts with adults to be pleasurable and/or desirable. Inasmuch, these statements greatly relate to cognitive distortions reported in previous studies (i.e., Malesky & Ennis, 2004; Lambert & O'Halloran, 2008; O'Halloran & Quayle, 2010) and the following techniques of neutralisation: Denial of injury and Denial of victims (see pg.61). It may be, therefore, that such views are a common (albeit mildly frequent) feature within CSDs' general intercommunications.

In addition, however, it was found that the MCO of Case 4 would bluntly deny anything being wrong or harmful about child sex abuse (i.e., *Extenuation* statements) or would claim that sexual acts are obligatory of children (i.e., *Entitlement* statements). With respect to these latter comments, so far as can be determined, no previous research into CSD intercommunications has expressly reported this latter cognitive distortion. As such, because dysfunctional schemas are known risk factors for contact sexual offending (see Ward & Beech, 2006), this finding should be examined within further research to confirm whether *Entitlement*-related statements are common among CSDs and/or indicative of individuals' offending histories.

To this point, it should be clarified that the vocabulary of offenders' *Justification*-related comments was also reexamined. Ultimately, however, no peculiar linguistic features and/or word scores were found. The only intriguing observation made in relation to this thematic category

was that, despite adopting children's perspective within their cognitive distortions, the study's contact ECO scored the lowest in relation to the LIWC category of *cognitive processes* (see Appendix K). As recently reviewed, in relation to the theme of *Fantasies,* it was expected that CSOs' attempts to rationalise abuse and adopt victims' views would lead to more cognitive processes words (e.g., t*hink, imagine, maybe,* etc.). Yet, owing to phrasing their opinions as facts and/or having a (relatively) brief transcript, this did not prove the case.

Section 3: **Chapter reflections**

Expositions

As recognised within Chapter 5 (see pg.151), when adopting a mixed method design, Guest (2012) stresses that researchers must consider their analyses' *point(s) of interface,* meaning: 'any point… where two or more data sets are mixed or connected in some way' (pg. 146). Within the present study, the connection between CSOs' communicative themes and specific vocabulary came from research evidencing that the language individuals use not only address topics and express thoughts (as intended) but also reveal unmentioned details into persons' lives and psychologies (Tausczik & Pennebaker, 2010). For these reasons, the present chapter analysed the study's qualitative and quantitative components together, by extension maximising the study's potentially useful information for child sex investigations. To this end, the chapter also provided suggestions for future research and emphasised this study's unique contributions to literature: using Discourse Analyses when identifying offenders' communicative themes and applying linguistic software to examine computer mediated communications between CSDs. Ultimately, several novel and/or noteworthy observations were made.

With respects to this study's statistical tests, it was found that only two out of 15 variables produced significant results. More specifically, it was calculated that MCOs used a significantly greater percentage of *regular verbs* than ECOs, while ECOs (by contrast) displayed more *clout* than MCOs. Beyond this, however, accompanying examination of CSOs' personal LIWC scores and chatlogs revealed multiple linguistic features of potential interest to future research (i.e., second-person pronouns, emotional words, dominance terms, etc.). Moreover, upon referring back to this study's qualitative analyses, further insight into offenders' 47 communicative themes was gleaned by reassessing CSOs' vocabulary. As with this study's statistical tests, therefore, multiple linguistic features were identified which hold promise for understanding CSDs' typical conversations and for assessing commenters' sex offences tendencies (i.e., *cognitive process* words, *reward focus* terms, *risk/prevention focus* words, vernacular for 'children', etc.). Once again, therefore, multiple recommendations for future research were presented.

Upcoming sections

In the course of examining the virtual cultures, communications and crimes of CSDs, this thesis has provided a brief explanation of the phenomena and examined the current study's contribution to the field. Through this process, this thesis has detailed its philosophy, design and methods, having most recently reviewed the study's final phase of analyses. With this all said, therefore, what remains of this thesis is a summary of its most salient points—briefly addressed to better acknowledge this study's limitations and additional recommendations. By extension, so will this thesis' final chapter emphasise how such studies might eventually assist investigators.

9. Conclusion: Reflections, suggestions and applications of research into CSDs' sexual intercommunications

Section 1: Child sex discoursers: Contemporary policing and research

Culture and concerns

As of March 2021, approximately 5.17 billion individuals were found to use the internet, making for a 1, 331.9% surge since the year 2000 (Internet World Stats, 2021). Through *computer mediated communications* (CMC), individuals are increasingly able to easily and anonymously connect with others, through texts, videos, emails or various web forums (Cooper, 1998; Holt et al., 2015; Young, 2010). Among said web forums are those most relevant to this thesis: *chatrooms*. In essence, such platforms are recognised as virtual *back places*: where subcultures disregard social stigmas to find information, advice and kinship (see Goffman, 1963). For decades, individuals with sexual interest in children have been using chatrooms and other forms of CMS (e.g., Durkin, 1997; Lamb, 1998); although, no definitive link between discussing sexual desires and offending had been made (McCarthy, 2010). For this research, therefore, any person who discuss sexual interests in children, excluding in instances of child sex grooming, were termed *child sex discoursers* (CSDs). In relation to investigating such persons, despite discussions of child sexual interests remaining (mostly) legal within England and Wales, CSD chatrooms are often monitored by police.

The prevalence of child sex offences, both online and off, is at an historic high, within England and abroad (Bailey, 2021; Internet Watch Foundation, 2021). As such, the National Policing Improvement Agency emphasises identifying and prioritising suspects most likely to

commit contact offences (NPIA, 2009). When assessing the threats of (anonymous) individuals online, however, this can prove especially difficult (Holt et al., 2015; Rashid et al., 2013). Thus, law enforcement is increasingly seeking and employing novel technology, with mixed results. At present, researchers have developed software which employs six primary approaches to monitoring the CMC of persons with sexual interests in children (Rashid et al.). Among these toolkits are programmes which process exchanges between CSDs, to identify individuals most likely to commit contact offences. However, even so, the research and technology into such areas remain nascent and not widely adopted (Rashid et al.).

That being said, increasingly, studies have provided insights into the nature of CSDs' electronic intercommunications. As pertains to communicative themes, among both male and female-oriented chatrooms, these observations include CSDs commenting on deviant behaviours, criminal investigations, sexual proclivities, daily activities and cognitive distortions (e.g., Holt, Blevins, Burket, 2010; Lambert & O'Halloran, 2008; O'Halloran & Quale, 2010; Malesky & Ennis, 2004). Relatedly, upon examining discussions between child sex groomers and (presumed) victims, Williams et al.'s (2013) found similarly themed comments, thereby helping affirm the nature of comments made by CSDs on chatrooms. What is more, however, by examining the chatroom messages of persons convicted exclusively of non-physical child sex abuse (i.e., non-contact offenders) and persons convicted of at least one instance of physical sex abuse (i.e., contact offenders, McManus et al. (2015) compared the prevalence of communicative themes between said groupings. From this, non-contact offenders were found to discuss adult relationship significantly more frequently than contact offenders.

Beyond this research, studies into textual conversations between child sex groomers and their (presumed) victims have demonstrated promising methods for identifying (potential)

contact-driven CSOs (i.e., Chiu et al., 2018; Drouin et al., 2017; Pendar, 2007; Parapar, Losada, Barreiro, 2012; Seigfried-Spellar et al., 2019). By analysing subjects' vocabulary, several of the aforementioned studies (i.e., Chiu et al.; Drouin et al.; Seigfried-Spellar et al.) found that groomers who attempt to meet and physically abuse children offline used a statistically significant higher degree of: 1) sexual words, 2) first-person pronouns, 3) positive emotion words, 4) negative emotion words, 5) assertiveness (i.e., *clout*) and 6) total word counts. Crucially, moreover, additional research has identified psycholinguistic indicators which link vocabulary (e.g., pronouns, emotional words, past-tense verbs, etc.) to mental states (e.g., depression and psychopathy) known to increase at-risk persons threat of committing contact sex offences (see Tausczik & Pennebaker, 2010). As of yet, however, no research has attempted to apply these findings or methods to assessing intercommunications between CSOs/CSDs.

Section 2: Reexamination of the present study

Review: Research methods and aims

To advance previous research and provide findings of (eventual) use to investigators, the current study examined features within CSDs' electronic, sexual communications, with the aims of: 1) Discerning subject's communicative themes, 2) Examining subjects' vocabulary and the efficacy of utilising linguistic software to process chatlogs,3) Assessing potential indicators of subjects' offending histories within their communicative features, and 4) Considering how CSDs' language and themes might be used within investigative tools. Ultimately, this study achieved its aforementioned aims by analysing the conviction records and chatlogs of known child sex offenders (CSOs); for which, West Yorkshire Police (WYP) provided (viable) data on 10 individuals. To identify potential thematic and linguistic indicators of the CSOs' criminal

behaviour, the sample was sorted into three categories, based on nature of the CSOs' most serious convictions (i.e., *Lest Concerning Offenders,* LCOs (n=2), *Moderately Concerning Offenders*, MCOs (n=6) and *Extremely Concerning Offenders* (ECOs n=2)).

As with past studies (i.e., Linehan et al., 2001; Malesky & Ennis, 2004; McManus et al., 2015; O'Halloran & Quale, 2010), part of this current research involved performing Content Analyses on CSOs' chatlogs to identify communicative themes. Additionally, however, unlike previous studies, this research also performed Discourse Analyses to better account for the context and syntax relating to offenders' communicative themes. By using the textual analysis software *Linguistic Inquiry Word Count* (2015), moreover, the study also examined the specific vocabulary within offenders' communicative themes and performed statistical comparisons of the language used by this study's offender categories.

Key findings

Ultimately, this study analyses provide insights into a mix of common and uncommon features of CSDs' electronic, sexual intercommunications. This includes potential thematic and linguistic idiosyncrasies, which show promise for assessing individuals' offending tendencies/ severity. Regarding the study's qualitative analyses, a total of 47 communicative themes were identified, including a combination of primary (n=7), secondary (n=19) and tertiary (n=21) categories. By and large, said themes were similarly observed across past research into CSDs (i.e., Cockbain et al., 2014; Holt et al., 2010; Lambert & O'Halloran, 2008; O'Halloran & Quayle, 2010; Malesky & Ennis, 2004; McManus et al., 2015). Generally speaking, therefore, this indicates that comments comprising this study's seven higher-order themes (i.e., *Condition, Sexual Interests, Claims, Fantasies, Pursuits, Caution* and *Justifications*) are likely prevalent

among varying demographics of CSDs (i.e., heterosexuals, homosexuals, males, females, offenders, non-offenders, etc.). To this point, as noted throughout Chapter 6, because such themes were reported in past research, their presence within WYP's transcripts was expected and serve to both bolster past findings and to confirm that WYP's dataset provided a standard sample of CSOs' electronic intercommunications (despite only analysing offenders' sexual comments).

As relates to the less common themes identified during this study's qualitative analyses, crucially, it was observed that comments (directly) pertaining to adult sexual relationships were exclusively made by non-contact (i.e., low-medium concerning) offenders. To this point, while no statistical comparisons could be made (as done within McManus et al., 2015), this trend indicates that comments pertaining to adult sexual relationships may prove reliable in assessing a CSDs' risk and/or severity. Relatedly, owing to the study's combined unique combination of Content and Discourse Analyses, several additional unique insights into CSOs' intercommunications were gleaned. In sum, among this study's particularly novel and/or distinct results, those which arguably most warrant further research include:

i. whether adopting and romanticising children's perspective is indicative of contact offenders
ii. whether encouraging other CSDs to commit child sex offences relates to and/or affects the instigator's offending tendencies
iii. whether it is common and/or indicative of CSDs' offending histories to assert that sexual acts from children are obligatory

With respects to the study's quantitative analyses, the application of LIWC and supplemental statistical tests offer additional, unique contributions to research regarding CSDs' vocabulary. In turn, as with its thematic findings, this study's quantitative analyses provide

insights into a mix of common and uncommon features among CSDs' electronic (sexual) intercommunications; and, once more, this includes features with potential to help identify and/or appraise child sex offenders.

To reiterate predictions discussed in Chapter 7, past research led the present study to predict that *Extremely Concerning Offenders* (ECOs) would use a higher frequency of first-person pronouns, third-person pronouns, verbs, positive emotion words, negative emotion words, and display greater degrees of clout than *Moderately Concerning Offenders* (MCOs)—who, in turn, were expected to score higher than *Least Concerning Offenders* (LCOs). By and large, however, these predictions were not found to prove true. Overall, it was found that pronouns, verbs and emotion words were commonly used by most CSOs within the study's sample. That being said, upon using a combination of Brown-Forsythe tests and post hoc analyses, it was revealed ECOs' use significantly less verbs and higher levels of dominance (i.e., *clout*) than MCOs, but not LCOs.[158] In addition to revealing relatively less common features with CSOs' intercommunications, therefore, the aforesaid statistical differences expose linguistic variables which could potentially be used to identify and distinguish between LCOs, MCOs and ECOs.

Beyond this, while also not statistically significant, it was found (as predicted) that contact ECO used a relatively much higher frequency of third-person singular pronouns. Upon examination, this high score was largely attributed to confessions and questions about abusing children—for which the CSO would often adopt victims' perspectives. Relatedly, despite a lack of statical significance,[159] it was noted that the groomer ECO used (relatively) frequent second-

[158] To review, as defined within Chapter 4, the category of LCO denotes a history of distributing and possession IIOC while the category of MCO (also) includes the production of such media.
[159] Owing to the finite time agreed retain the data provided by WYP, it was deemed impractical to extensively compare and contrast all LIWC (2015) scores. As such, a literature-driven approach was taken to determine which variables demonstrated the most pragmatically useful potential. With adequate time, however, a more comprehensive examination of all LIWC scores is warranted.

person pronouns, emotional words, and dominance-related terms to acquire sexual media. Interestingly, this could suggest that groomers might use such language, whether seeking explicit content from CSDs or potential victims. As such, because no research has attempted to apply similar linguistic analyses to assess the communications between CSDs, this exploratory study offers unique contributions to the field and demonstrates promise for investigative use.

Lastly, among this study's most salient findings, attention was also given to the less common vocabulary within the sample's communications. As such, it was observed that the word categories of cognitive process, reward focus, affiliation, inquisition and risk/prevention focus might help assess individuals' offence histories. Although not revealing, in and of themselves, the scores which offenders received within the abovementioned word categories appeared to relate to the presence or absence of related communicative themes identified during this study's qualitative analyses. Together, therefore, the use of thematic and linguistic analyses might help to assess CSDs' offending tendencies. Relatedly, it also bears repeating that other linguistic idiosyncrasies were identified (i.e., synonyms for 'children', photography-related jargon, bodily details of alleged victims) which might likewise indicate the offending tendencies of CSDs.

Section 3: Considerations for future research

Pragmatic possibilities

As previously mentioned, among the various approaches to monitoring electronic communications between persons expressing sexual interests in children, one means is to employ computer programmes which process textual exchanges (Rashid et al., 2013). Currently, however, the research and procedures behind such software in relation to CSDs remain

underreported and underdeveloped, often prompting police to assess communications manually (Rashid et al.). Because of this, studies establishing connections between communicative themes (e.g., McManus et al., 2015) or specific vocabulary (e.g., Chiu et al., 2018) and CSOs' offending tendencies are needed. By providing a range of variables which can be defined and measured, such research can help create and/or advance tools used by investigators. In relation to how such aims can be achieved, one well-documented computer programme can serve as reference

Relatively recently, research estimating the threats of persons accessing IIOC led to the development of the *Kent Risk Assessment Tool-2* (KIRAT-2) (see Long et al., 2016). In brief, the KIRAT-2 is a computer programme which assesses and categorises individuals by their general risk of committing contact offences (e.g., *high, medium* or *low*). To do this, the software weighs numerous variables linked to contact abuse (e.g., criminal histories, access to children, online grooming, etc.), thereby employing principles similar to guidance offered by the NPIA (2009). Consequently, the KIRAT-2 has the ability to identify high-risk offenders with a 97.6% accuracy and can correctly identify low-risk CSOs in 62.3 % of cases. As such, the KIRAT-2 has the potential to be indispensable. However, as impressive the as programme is, the instrument's utility is nonetheless limited.

Firstly, as stated, the KIRAT-2 is an investigative aid for assessing the risk of offenders accessing IIOC (Long et al., 2016). Because of this, the tool is not (currently) capable of processing communications between CSDs. What is more, in another paper (i.e., Giles & Alison, 2021), several of the KIRAT-2's creators assert that cotemporary research offers little promise with using communicative themes or specific language to distinguish and/or identify child sex offenders online. However, as examined throughout this thesis, within small samples, potentially significant differences CSOs' offending tendencies and intercommunications do appear to exist.

Inasmuch, by using research akin to the present study to address the current gaps in research, such analyses do present promise for developing software which recognises and weighs communicative variables—just as programmers have done for other (contact) offence risk factors. In turn, such research could provide additional means of identifying potentially dangerous persons, capable of being used independently or with (other) investigative tools.

To this latter point, it is theoretically possible to program the KIRAT-2 to recognise CSDs' communicative themes and select vocabulary. By combining text analysis elements with such software, the resulting programmes could prove especially effective and versatile, particularly when police may not know all the personal details of suspects required by software such as the KIRAT-2. Likewise, because this study and others (e.g., Cockbain et al., 2014; Malesky & Ennis, 2004; McManus et al., 2015) similarly noted CSDs to exchange IIOC among their textual messages, its seems that tools akin to the KIRAT-2 are already partially capable of monitoring CSD chatrooms and comparable platforms. Taken with the results of this study and past research, therefore, the abovementioned goals seem increasingly feasible in the future. With this study being exploratory in nature, however, so is it recognised that multiple limitations must be addressed for the sake of clarity and future research.

Limitations: Dataset and analyses

Referring briefly to matters discussed within Chapters 5 and 7, one primary concern of this study was its small sample size. As generous and informative as WYPs' dataset proved to be, with only 10 offenders and a disproportionate ratio of LCOs (n=2), MCOs (n=6) and ECOs (n=2),[160] the observations and calculations made herein might not accurately reflect trends within

[160] By extension, WYP's sample provided a disproportionate ratio of contact (n=1) to non-contact (n=9) offenders, requiring the classification system ultimately employed for the current research.

the broader CSD population. In order to reliably identify patterns among a subculture, a much larger sample is required—ideally where subjects are divisible into roughly equal groups. Depending on the exact analyses and/or tests adopted, the number of subjects needed to produce generalisable findings varies widely (Field, 2018). Nonetheless, for ideal results, each unique piece of research would examine sizeable samples. In addition to individual studies acquiring (relatively) large samples, however, so can data accumulated across distinct pieces of research (i.e., *meta analyses* or *data synthesis*) help to estimate the generalisablity of results. When compared and paired with the samples and findings of related literature, therefore, the results of this study are still valuable and reliable.

With this said, another concern previously addressed (see Chapters 4, 5 and 7) is this study's disparate transcripts. Regrettably, owing to redactions made for multiple reasons (i.e., protecting sensitive information, producing Streamlined Forensic Reports and preparing corpuses for LIWC analysis), each offender's chatlog was repeatedly edited. As a consequence, the lengths of CSOs' transcripts ranged greatly (see pg.142 and 245), thereby limiting this study's analyses CSOs' to sexual statements. Given that previous studies have reported CSDs to discuss non-sexual subjects (e.g., Holt et al., 2010; Lambert & O'Halloran, 2008; O'Halloran & Quayle, 2010; Malesky & Ennis, 2004; McManus et al., 2015), this means potentially revealing communicative themes went unobserved. Moreover, for each word redacted from a chatlog, this would directly impact LIWC's calculations—albeit to an unknown extent. Informative as this study may prove to researchers, therefore, the abovementioned concerns greatly undermine any current use to investigators.

By extension, another complication with this study concerns how its data was collected. To clarify, data is broadly distinguished between information which is specifically produced for

a study (i.e., *primary sources*) and that which derives from other origins (i.e., *secondary sources*). Regarding the latter, this would include CSOs' chatlogs and criminal records. For many qualitative researchers, such unsolicited data are preferred, arguably offering the most candid and/or illustrative examples of genuine lived experiences (Gordon, 2020).[161] Nonetheless, in addition to their benefits, secondary sources are also more susceptible to *filtering*. Put simply, this refers to any distortions made to data after passing through multiple sources (Gordon). In the case of this study, therefore, because all offender transcripts were edited by WYP and the researcher, this is a primary concern.

Beyond complications with edits to CSOs' transcripts, it is crucial to once again stress the limited (yet adequate) ability of LIWC (2015) to categorise vocabulary.[162] While the programme's analyses should not be undervalued or dismissed, it is must be emphasised that without the ability to distinguish between syntax, LIWC (2015) sorts words into any category which applies. This not only means that homonyms (e.g., *fuck*) would be classified multiple times, but also that the context in which terms were used (e.g., 'my daughter' v 'their daughter') would not affect LIWC's (2015) categorisations.

Remaining on the topic of offenders' transcripts, another concern for the current study was the diversity among its subjects' audiences. To iterate, within WYPs' sample, the 10 CSOs were observed to communicate fellow CSDs whom they knew to varying degrees (e.g., friends, acquaintances and strangers). Relatedly, it was found that the study's subjects held combinations of one-on-one and group conversations, occurring over a mix of successive and isolated

[161] Given the ethical complications and potential effects on data and participants of having CSDs/CSOs generate transcripts on child sexual interests, moreover, it is neither practical nor feasible to produce primary sourced data.

[162] With regard to the programmes' abovementioned limitations, it should once more be noted that the newest version of the software (i.e., LIWC-22) can take the context and/or syntax of words into account.

exchanges. As such, these inconsistencies may have impacted CSOs' conversations, both in terms of communicative themes and accompanying vocabulary. Ideally, therefore, to best account for offenders' audiences, analysts could request investigators identify one common recipient (i.e., *control*) who individually communicated with each subject. Indeed, this request was able to fulfilled by Hampshire Constabulary for McManus et al., (2015). By using a shared recipient, the researchers were better able to avoid: 1) differences in familiarity levels between messengers, 2) inconsistent responses to subjects' comments and 3) repetitive conversations between differing audiences. To these points, however, by using a control, this raises the concern that any observations of offenders' communications may not be widely generalisable.

Another variable to consider is CSOs' privacy concerns. As reported within Chapter 3 (see Section 2), the CSDs examined by Holt et al. (2010) were regularly found to discuss security concerns, refuse to share IIOC on certain web forums and use ambiguous wording when mentioning contact offences—all out of fears of police monitoring. Likewise, within this study, several CSOs' were found to express reluctance over sharing IIOC and would occasionally make comments relating to security and/or secrecy. In turn, these privacy concerns may have impacted some CSOs' communicative themes and specific vocabulary.

Lastly, another shortcoming of the present study was the researcher's (significantly) limited ability to account for CSOs' levels of honesty. As previously stated, it is recognised that dishonesty can alter persons' vocabulary[163] (Tausczik & Pennebaker, 2010). Indeed, several of the effects are found to directly overlap and/or negate linguistic idiosyncrasies linked to

[163] In relation to whether offenders' levels of honesty complicated the analysis of their communicative themes, it was reasoned that what mattered most was whether the comments established a pattern. To clarify, while it would benefit police to know whether a CSOs' statement was truthful or false, so long as the presence of such comments (i.e., claims of an adult sexual relationship) can be correlated to similar criminal histories (i.e., non-contact offences), the theme could be used to assess offending tendencies.

worrisome psychological states (e.g., depression and psychopathy). To this point, however, it should be iterated that this study was not provided with information into the mental states of offenders within WYP's sample. Thus, such information could not be used in attempt to assess CSOs' levels of honesty. In the future, therefore, studies would need to account for offenders' psychology and honesty. Indeed, these are but a few suggestions for future research, with others expounded upon below.

Future research: Intentions and suggestions

As repeatedly indicated, foremost among this study's recommendations for future research is to corroborate the findings documented herein, ideally with larger samples and minimally edited transcripts. Referring back to matters addressed in Chapter 4, because discussing child sexual interests remains largely legal under English and Welsh law, exchanges between CSDs are often left undocumented by police or are abridged into *Streamlined Forensic Reports* (SFRs), containing only CSDs' most incriminating comments. Consequently, corroborating this study's findings with a more substantial sample may (at present) prove infeasible. Incidentally, even by itself, this dearth of data presents multiple avenues of research, such as interviewing analysts who edit SFRs and/or undercover officers who pose as CSOs online, to better assess whether chatlogs produced (in part) by said officials accurately echo natural CSD dialogue. If, however, analysing larger samples and unabridged transcripts proves possible—despite the benefit of examening SFRs to reflect the nature of chatlogs often assessed by investigators—such endeavours would further serve to appraise the generalisability of existing studies and assess whether CSDs' themes and language can help identify potentially and/or especially dangerous persons. Indeed, given the range of sources from which past studies

have retrieved their data (i.e., CSD chatrooms, vigilante groups and police records), each of the research suggestions above would offer unique and needed insights into CSDs' communications.

Going forward, along with analysing more substantial samples, subsequent studies aiming to identify correlations between CSDs' offending tendencies and communication features would benefit from employing methods similar to those used for testing investigative software. To clarify, in attempting to develop computer programmes which identify potential contact CSOs, various studies (e.g., Long et al., 2016; Parapar et al., 2012; Seigfried-Spellar et al., 2019) have run statistical tests (e.g., logistic regressions, ROC analyses,[164] etc.) which estimate the accuracy of said investigative programmes. Thus, should research eventually identify correlations between CSDs' communication features and offending tendencies, any resulting investigative software should be appraised using statistical analyses which gauge the programmes' efficacy. Yet, in addition to the recommendations above, to truly understand the nature of CSDs' intercommunications, future research is also advised to address the additional limits of this study, as clarified below.

As recently touched upon, one suggestion for subsequent research is to examine the intercommunications of CSDs by focusing on the nature of their audiences (and criminal histories). Within Chapter 3, it was noted that Cockbain et al.'s (2014) interviews with child sex syndicates members found the CSOs would disclose personal details, depending on factors such as others' trustworthiness and familiarity (as well as websites' levels of security). Beyond this, as with the present study, Holt et al.'s analyses revealed (2010) that CSDs would occasionally

[164] In brief, ROC analyses are a statistical test which use *Area Under the Curve* (AUC) assessments to compare the power of random predictions with the non-random predictions from a study's results, thereby measuring the statistical power of making true or false predictions based on the variables informing researchers' assessments (e.g., offence histories, mental health issues, LIWC scores, etc.) (Bowers & Zhou 2019; Obuchoswki, 1997).

comment on concerns about secrecy, further demonstrating the importance of familiarity. Because variables such as anonymity and familiarity seem to impact the nature of communications between CSDs, therefore, future research would benefit from comparing CSDs' peer-to-peer communications when messaging friends, acquaintances and strangers. By extension, so could such research further compare the language and themes within transcripts by categorising CSOs' based on offending histories/severity (as done presently).

Continuing along a similar line of logic, another avenue for research based on this study's limitations would be to examine CSDs' intercommunications for differences between one-on-one and group conversations. Previously, for McManus et al.'s (2015) analyses, the researchers managed to obtain a sample of CSO's online conversations, all of which occurred individually between each offender and one common recipient. In turn, this helped to avoid several potentially confounding variables, including: 1) repetitive conversations between differing persons, 2) an inconstant nature among the responses to subjects' comments and 3) differing levels of familiarity between messengers and recipients. Regrettably, given the limited amount of peer-to-peer transcripts retained by WYP, a similar, common recipient could not be identified for this study's sample. This meant the CSOs of the present dataset communicated with audiences of greatly varying sizes, which may have impacted the offenders' communications.[165] That being said, to the researcher's knowledge, no study has yet attempted to compared CSDs' online conversations, based on differing audience sizes. In the future, therefore, to inform academics and investigators, future research may seek to address this gap in literature, as well as how differences may manifest within the communications of different types of child sex offenders.

[165] For example, this study's contact ECO held a one-on-one conversation while the MCO of Case 3 posted messages to relatively active and popular online community (i.e., with hundreds of users).

Moving on, another recommendation for ensuing research is to examine the effects of CSDs' shared online profiles. Within online messaging forums, it has been found that is not unusual for multiple CSDs to share one, anonymous account (Rashid et al., 2013).[166] Crucially, however, along with estimates of the prevalence of shared profiles, the extent to which said complications may impact assessments of CSDs' intercommunications remains uninvestigated. Given that both the present study and McManus et al.'s (2015) analyses indicate CSOs' of differing offence histories and/or tendencies may communicate with thematic and linguistic idiosyncrasies, however, it is reasonable to conclude that if CSDs' of differing risk or severity share an online profile, to assess their communications as if from a single individual would be detrimental. Importantly, because McManus et al. and the current study used police data, both analyses can be confident that their chatlogs were written by individual offenders. Be that as if may, for the sake of filling gaps in contemporary research and addressing complications which investigators may face, future studies would benefit from examining the complications posed by CSDs' sharing online profiles.

Taken further, recent linguistic and thematic analyses have demonstrated that persons' particular writing styles can help identify individuals who may be posting under multiple alias and/or across various websites. Although not directly related to CSDs, one example of said analyses can be found in the identification of several contemporary conspiracy theorists, discovered to use multiple, anonymized profiles to (individually) disseminate their messages under the guise of posting as several persons (see Kirkpatrick, 2022). By extension, therefore, it is reasonable to consider whether qualitative and quantitative features within CSDs' personal writing styles can serve to distinguish individuals' communication and track their posts across

[166] When conversing with potential victims, groomers may be especially inclined to share a profile.

differing web forums and/or electronic means of communication. If so, this ability, in turn, could aid police better monitor and investigate the online actions of potentially and/or especially dangerous persons. Thus, despite remaining a particularly lofty goal, such endeavours should be explored in future research.

Building off of linguistic hallmarks which might distinguish between individuals, to advance the aims of any future analyses recommended thus far, another worthwhile pursuit for subsequent research would be to develop a lexicon of vernacular used among child sex discoursers. At present, various organisations (e.g., the Internet Watch Foundation[167]) and studies (see Choo, 2009) have begun to compile keyword list of terms, slang and netspeak used online among child sex web forums. Given the dynamic nature of communities' vernacular (especially online), and due to the lack of a single keyword list incorporating separate study's findings, efforts to compile, define and update a comprehensive list of CSDs' terms, slang and netspeak are past due. Indeed, not only would such efforts serve to assist researchers and investigators interpret CSDs' intercommunications; but, so could such research promote the use of custom dictionaries when using computer programmes for linguistic analyses.

Most obviously, this proposed application of custom dictionaries includes testing the amenities of the recently released LIWC-22. As repeatedly stated, with respects to LIWC-15, the software was unable to account for the context of offenders' distinct use of vocabulary. Thus, by instructing LIWC-22 to categorise the parlance of CSDs (e.g., the term young referencing children and IIOC) this could improve future studies' analyses and minimise the complications when processing CSOs' transcripts. Beyond this, moreover, subsequent research would benefit

[167] Available upon the request, over the past few decades, the IWF has compiled a Keywords List of CSDs and CSOs' online parlance. For more insight, the folling contact information has been provided: https://www.iwf.org.uk/our-technology/our-services/keywords-list/; email: members@iwf.org.uk; phone: +44 (0)1223 20 30 30, or complete the membership enquiry form.

from exploring the option of using Wmatrix, along with custom dictionaries. As explained within Chapter 3, Wmatrix functions similar to LIWC and is well-suited for incorporating custom dictionaries and capable of analysing syntax (Rayson, 2003; 2008). However, because Wmatrix is licensed by Lancaster University, all data must be processed online. In turn, this presents ethical complications for studies with sensitive information.

Continuing with this study's suggestions, further recognising the potential of computer programmes, future research is also recommended to examine the utility AntConc (Anthony, 2005; 2011). Despite best efforts, incorporating the software into this study's analyses ultimately proved infeasible (see pg.238). Given that AntConc is not only able to generate keyword lists but also identify phrases and assess the strength of association within multi-word units (i.e., *idioms*), this programme offers ways for researchers to explore how such software can identify themes within CSDs communications. In effect, this could help police use technology to perform qualitatively analyses—albeit to a limited extent. Tangentially, it is also worth noting that AntConc is available for free and is compatible with Windows, Macintosh OS X, and Linux.[168] Given that police (within England and Wales) are often constrained by limited budgets (e.g., Fleetwood & Lea, 2022), therefore, using AntConc may prove to be especially advantageous.

In addition to the abovementioned recommendations, it is suggested that future research examine CSDs' non-English communications. As repeatedly stated, the prevalence of child sex offences is at an historic high, both within England and internationally (Bailey, 2021; Internet Watch Foundation, 2021). In turn, investigative aids for assessing CSDs' communications are desired worldwide (Hancock et al., 2015; Rashid et al., 2013). Regrettably, owing to an unfamiliarity with foreign languages, this study's researcher cannot confirm the extent or nature

[168] To download AntConc and related software, visit: http://www.laurenceanthony.net/.

of untranslated, CSD-focused literature. Nonetheless, by reexamining the findings of English studies in foreign languages, such analyses would (at the very least) help clarify any similarities and differences. To this point, such researchers should also consider how CSDs' computer mediated communications are affected when faced with languages barriers. Indeed, given that many child abuse hosting sites are hosted internationally (Internet Watch Foundation, 2021), and because the UK was recently ranked among the three most prolific consumers of child sex abuse videos from the Philippines (Bailey, 2021), this later recommendation may be pragmatic.

Section 4: Concluding remarks

Having critically discussed each component of the current study, the net result is encouraging. Although not performed as initially planned, this research was able to make unique contributions to child sex offence literature, combining Content Analyses, Discourse Analyses and *Linguistic Inquiry Wordcount* (LIWC 2015) to assess computer mediated messages shared between child sex discoursers and differing categories (i.e., severities) of convicted offenders. Consequently, this research both affirmed and expanded insights into the general nature of CSDs' intercommunications, thus bolstering the work of preceding and subsequent studies.

By itself, however, it is recognised that the present study cannot reliably assist investigators identify or prioritise potentially or especially dangerous persons. Nonetheless, the knowledge provided herein might aid in such efforts. Going forward, numerous avenues of pragmatically useful research hold potential, including: 1) reaffirming this study's findings with larger datasets; 2) examining minimally abridged transcripts; 3) interviewing data analysts who edit SFRs and undercover officers who pose as CSOs online; 4) using statistical analyses to gauge the reliability of assessing threats via CSDs' intercommunications; 5) incorporating

communicative features within risk assessment tools (e.g., KIRAT-2); 6) comparing CSDs' one-on-one and group conversations, 7) examining the complication of CSDs sharing online accounts, 8) attempting to identify individuals by personal writing styles, 9) compiling a lexicon of CSD parlance; and, 10) employing newer and untested linguistic software. Ultimately, therefore, if anything is to be gleaned from this study, it is that even with small samples, research into the electronic intercommunications and cultures of child sex discoursers is worth pursuing.

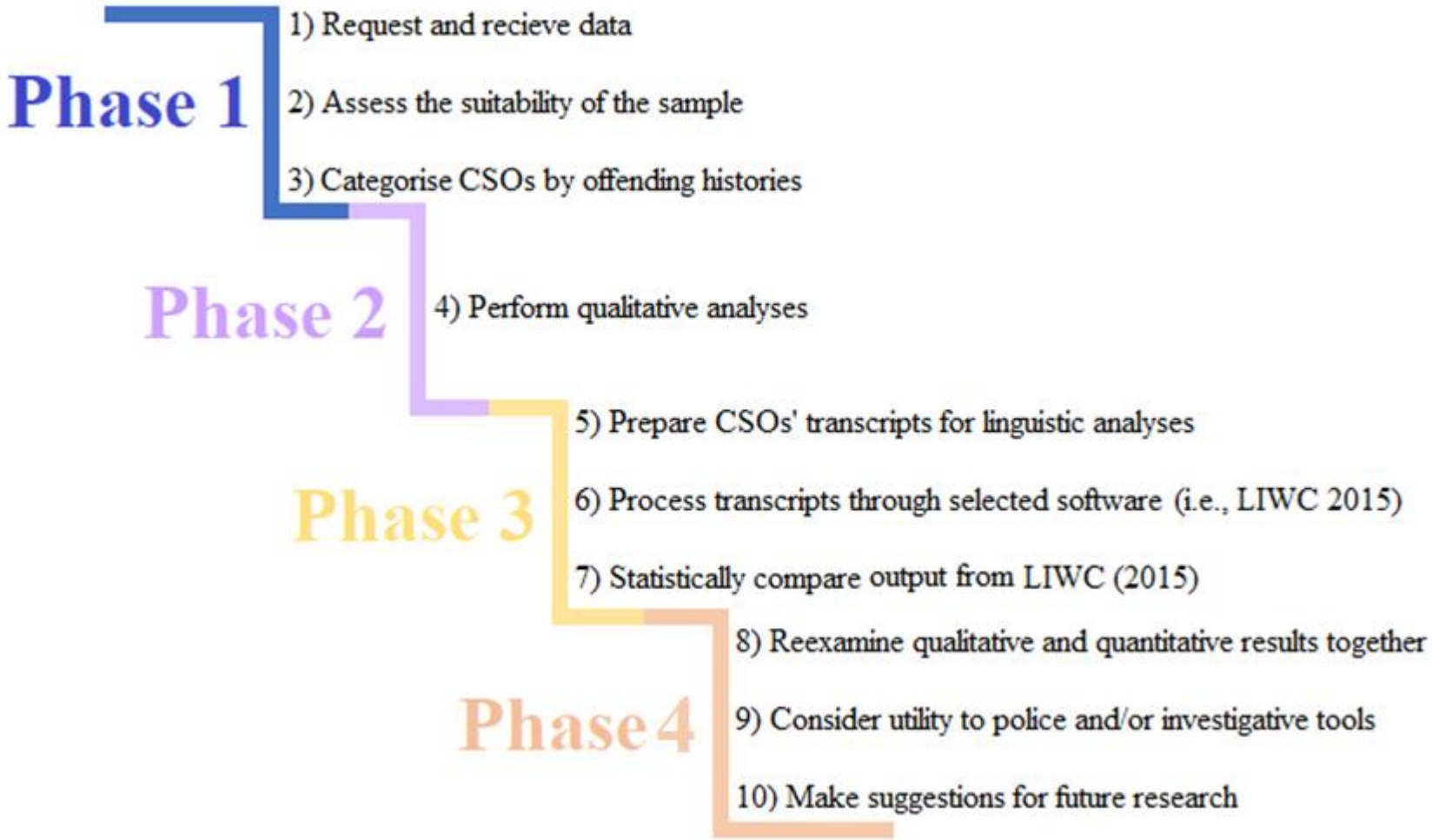
APPENDIX A

Indecent Images of Children (IIOC) sentencing classifications

Levels 1-5 (Sentencing Advisory Panel, 2002)	
Level 1	Images depicting erotic posing with no sexual activity
Level 2	Nonpenetrative sexual activity between children, or solo masturbation by a child
Level 3	Nonpenetrative sexual activity between adults and children
Level 4	Penetrative sexual activity involving a child or children or both children and adults
Level 5	Sadism or penetration of, or by, an animal
Offense categories (Sentencing Guidelines Council, 2013)	
Category A	Images involving penetrative sexual activity, possession of images involving sexual activity with an animal or sadism
Category B	Possession of images involving nonpenetrative sexual activity
Category C	Images of erotic posing

APPENDIX B

Data collection and processing



APPENDIX C

Data Processing Contract template

DATA PROCESSING CONTRACT

THIS CONTRACT is made the DD day of MONTH YYYY BETWEEN

1. The Parties

1.1.

2. Purpose

2.1. The purpose of the data processing is set out in Part 1 of **Schedule A**.

2.2. This Contract sets out the terms and conditions under which Data held by the Controller will be disclosed to and used by the Processor. This Contract is entered into with the purpose of ensuring compliance with the Data Protection Legislation. The only processing that the Processor is authorised to do is listed in **Schedule A** to this Contract and shall be solely for the purposes identified by the Controller and the manner specified from time to time by the Controller in writing and for no other purpose or in any manner except with the express prior written consent of the Controller or as required by Law. The Processor may not determine at any time the purpose or means of Processing.

2.3. The Purpose is consistent with the original purpose of the Data creation and/or collection.

2.4. The legal basis for the Processing of Data for the Purpose is set out in Part 2 of **Schedule A** and the Controller shall ensure that it has all necessary appropriate consents and notices in place to enable lawful transfer of the Police Data to the Processor for the duration and purposes of this Contract.

2.5. Both Parties will comply with all applicable requirements of the Data Protection Legislation and this Contract is in addition to, and does not relieve, remove or replace, a Party's obligations under the Data Protection Legislation.

3. Definitions

The following words and phrases used in this Contract shall have the following meanings except where the context otherwise requires:

3.1. The expressions "**Data**", "**Controller**", "**Processor**", "**Personal Data**", "**Processing**", "**Personal Data Breach**", "**Pseudonymisation**" take the meaning as in Article 4 of GDPR.

3.2. **"Aggregated Data"** means Police Data presented to the extent that no living individual can be identified from that Aggregated Data or any other Data in the possession of, or likely to come into the possession of any person obtaining the Aggregated Data.

3.3. **"Confidential Information"** means all Police Data and any other information relating to the Controller's customers and prospective customers, current or projected financial or trading situations, business plans, business strategies, developments and all other information relating to the Controller's business affairs including any trade secrets, know-how and any information of a confidential nature imparted by the Controller to the Processor during the term of this Contract or coming into existence as a result of the Processor's obligations, whether existing in hard copy form or otherwise, and whether disclosed orally or in writing.

3.4. **"Contract"** means this data processing contract together with its schedules and all other documents attached to or referred to as forming part of this Contract.

3.5. **"Criminal Offence Data"** means Personal Data relating to criminal convictions and offences or related security measures referred to in Article 10 of the GDPR.

3.6. **"Data Loss Event"** means any event that results, or may result, in unauthorised access to Police Data held by the Processor under this Contract, and/or potential loss and/or destruction of Police Data in breach of this Contract, including any Personal Data Breach.

3.7. **"Data Protection Impact Assessment"** means an assessment by the Controller of the impact of the envisaged processing on the protection of Police Data.

3.8. **"Data Protection Legislation"** means (i) GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the Data Protection Act 2018 to the extent that it relates to processing of personal data and privacy (iii) all applicable Law about the processing of personal data and privacy.

3.9. **"Data Subject Access Request"** means a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data.

3.10. **"DPA 2018"** means the Data Protection Act 2018.

3.11. **"GDPR"** means the General Data Protection Regulation (Regulation (EU) 2016/679).

3.12. **"Government Protective Marking Scheme" (GPMS)/Government Security Classification (GSC)** means the scheme for the classification of information.

3.13. **"Law"** means any law, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, enforceable EU right within the meaning of Section 2 of the European

Communities Act 1972, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements with which the Processor is bound to comply.

3.14. **"LED"** means the Law Enforcement Directive (Directive (EU) 2016/680)

3.15. **"Party/Parties"** means a party and the parties to this Contract.

3.16. "**Police Data**" means any Data, including Personal Data and Special Categories of Personal Data and Criminal Offence Data, to be provided to, or collected by, the Processor and processed on behalf of the Controller as identified in **Schedule A**.

3.17. **"Police Manager"** means the person designated by the Controller to have oversight and responsibility for ensuring the Data Processing on behalf of the Controller, such person to be as notified to the Processor from time to time. The Police Manager will assume responsibility for co-ordinating data protection compliance, notification, security, confidentiality, audit and co-ordination of Data Subject rights and Freedom of Information requests as directed by the terms of this Contract.

3.18. **"Processor Personnel"** means all directors, officers, employees, agents, consultants and contractors of the Processor and/or of any Sub-processor engaged in the performance of its obligations under this Contract.

3.19. **"Project Manager"** means the person designated by the Processor to have day-to-day management responsibility for the Data Processing and compliance with this Contract on behalf of the Processor, such person to be as notified to the Controller from time to time. The Project Manager will assume responsibility for data protection compliance, notification, security, confidentiality, audit and co-ordination of the Data Subject rights and Freedom of Information requests as directed by the terms of this Contract.

3.20. **"Protective Measures"** means appropriate technical and organisational measures which may include: Pseudonymisation and encrypting Police Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Police Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by it.

3.21. **"Purpose"** means the purpose of the Data Processing as set out at clause 2.1 above.

3.22. **"Services"** means the Data Processing activity and services to be undertaken by the Processor on behalf of the Controller, as identified in **Schedule A**.

3.23. **"Special Categories of Personal Data"** has the same meaning as in Article 9 of GDPR.

3.24. **"Sub-processor"** means any third Party appointed to process Police Data on behalf of the Processor.

3.25. Headings are inserted for convenience only and shall not affect the construction or interpretation of this Contract and, unless otherwise stated, references to clauses and schedules are references to the clauses of and schedules to this Contract;

3.26. Any reference to any enactment or statutory provision shall be deemed to include a reference to such enactment or statute as extended, re-enacted, consolidated, implemented or amended and to any subordinate legislation made under it; and

3.27. The word 'including' shall mean including without limitation or prejudice to the generality of any description, definition, term or phrase preceding that word, and the word 'include' and its derivatives shall be construed accordingly.

4. Information provision

4.1. It is recognised that the Purpose requires access to the Police Data, which has been previously protectively marked by the Controller, up to and including RESTRICTED/OFFICIAL under the GPMS/GSC.

4.2. The Police Data will be provided over a set time period as agreed by both parties. The types of Police Data and categories of Data Subject are set out in **Schedule A**. This data set is subject to change but only with the written agreement of both Parties.

4.3. Ownership of the Data shall at all times remain with the Controller.

4.4. The Police Data will be delivered to the Processor in accordance with the GPMS/GSC as defined in the HMG GSC guidance.

4.5. The Police Data will be delivered to the Processor in accordance with the GPMS/GSC and must be stored, backed-up and deleted accordingly. Data will be sent to the Processor in the manner set out in **Schedule A**.

5. Access to the Police Data

5.1. Access to the Police Data will be restricted to the Processor Personnel who are directly involved in the processing of the Police Data in pursuance of the Purpose and have been authorised in advance by the Controller. The authorised Processor Personnel at the date of this Contract are as identified in **Schedule B**. The Processor will have full responsibility for the notification of new employees/appointees to the Controller.

5.2. The Processor shall, in relation to any Police Data processed in connection with this Contract, ensure that

5.2.1. the Processor Personnel do not process Police Data except in accordance with this Contract (and in particular **Schedule A**);

5.2.2. it takes all reasonable steps to ensure the reliability and integrity of any Processor Personnel who have access to the Police Data and ensure that they:

5.2.2.1. have first been approved by the Controller and appropriately vetted to a level that is acceptable to the Controller based on West Yorkshire Police's force policy;

5.2.2.2. are aware of and comply with the Processor's duties under this Contract;

5.2.2.3. are subject to appropriate confidentiality undertakings with the Processor or any Sub-processor and, if requested to do so by the Controller, sign the Undertaking of Confidentiality at **Appendix 3**;

5.2.2.4. are informed of the confidential nature of the Police Data and do not publish, disclose or divulge any of the Police Data to any third Party unless directed in writing to do so by the Controller or as otherwise permitted by this Contract;

5.2.2.5. are aware of and comply with the Official Secrets Act 1989; and

5.2.2.6. have undergone adequate training in the use, care, protection and handling of Police Data.

5.3. The Controller will undertake suitability checks on any of the Processor Personnel if it is decided that they will have access to police premises and/or Police Data and/or the West Yorkshire Police data network and /or crime information system and further reserves the right to issue instructions that particular individuals shall not be able to participate in the Purpose without reasons being given for the decision. This decision will be based upon force vetting policy. The Processor will ensure that each person who will participate in the Purpose understands this and provides written consent.

6. Use, Disclosure and Publication

6.1. The Police Data will be used only to the extent, and in such a manner, as is necessary for the Purpose and be processed by the Processor in accordance with the written instructions of the Controller as detailed in **Schedule A** unless the Processor is required to do otherwise by Law. If it is so required the Processor shall promptly notify the Controller before processing the Police Data unless prohibited by Law.

6.2. Where deviation from **Schedule A** is required this will only occur where previously authorised in writing by the Police Manager to the Project Manager and attached as a subsequent addendum to this Contract.

6.3. The Processor shall notify the Controller immediately if it considers that any of the Controller's instructions infringe the Data Protection Legislation.

6.4. The Processor shall provide all reasonable assistance to the Controller in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Controller include:

6.4.1. a systematic description of the envisaged processing operations and the purpose of the processing;

6.4.2. an assessment of the necessity and proportionality of the processing operations in relation to the Services;

6.4.3. an assessment of the risks to the rights and freedoms of Data Subjects; and

6.4.4. the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Police Data.

6.5. The Processor will not create or use (including publish) Aggregate Data except where permitted by **Schedule A**.

6.6. The Processor may not contact any Data Subject except where permitted by **Schedule A**.

6.7. The Processor will not use the services of any sub-contractors in connection with the processing of the Police Data without following the procedure set out in clause 6.8, except where permitted by **Schedule A**.

Before allowing any Sub-processor to process any Police Data related to this Contract, the Processor must:

6.7.1. notify the Controller in writing of the intended Sub-processor and processing;

6.7.2. obtain the written consent of the Controller;

6.7.3. enter into a written agreement with the Sub-processor which gives effect to the terms set out in this Contract such that they apply to the Sub-processor; and

6.7.4. provide the Controller with such information regarding the Sub-processor as the Controller may reasonably require including, but not limited to, such details as is required by West Yorkshire Police's vetting policy.

6.8. The Processor shall remain fully liable for all acts or omissions of any Sub-processor.

6.9. The Processor shall promptly comply with any request from the Controller requiring the Processor to amend, transfer or delete the Police Data.

6.10. The Processor will keep a record of any processing of the Police Data it carries out.

6.11. The Police Data shall not at any time be copied, broadcast or disseminated to any other third parties, except in accordance with this Contract.

6.12. The Processor will provide an effective backup and recovery mechanism to secure the Police Data in accordance with **Schedule A**.

6.13. Police Data will NOT be matched with any other Police Data otherwise obtained from the Controller, or any other source, unless specifically authorised in writing by the Controller.

6.14. Police Data will NOT be disclosed to any third party, including other police forces, without the written authority of the Controller.

6.15. Police Data used will not be published in identifiable form unless the persons concerned have given their consent and in conformity with other safeguards laid down by domestic law. This consent must be sought via the Controller and not directly with persons identified in the Police Data, unless a further agreement is made.

6.16. This Police Data and any resulting findings or conclusions **WILL NOT** under any circumstances be published without prior written approval from the Controller (or an appointed representative) to ensure there is no harm in the way the information is being presented or that the information is being misrepresented**.**

6.17. Any police, investigative or other tactics or organisational method, covert or overt, identified within the Police Data will NOT be disclosed to any third party without the written authority of the Controller. On request, guidance on what would constitute police, investigative or other tactics or organisational matters will be given to the Processor by the Designated Police Manager.

6.18. The Processor shall, in relation to any Police Data processed in connection with this Contract, not transfer Police Data outside the European Economic Area unless the prior written consent of the Controller has been obtained and the following conditions are fulfilled:

6.18.1. The Controller or the Processor has provided appropriate safeguards in relation to the transfer (whether in accordance with GDPR Article 46 or LED Article 37) as determined by the Controller;

6.18.2. The Controller's requirements in regard to the vetting of Processor Personnel are satisfied;

6.18.3. The Data Subject has enforceable rights and effective legal remedies;

6.18.4. The Processor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Police Data that is transferred (or, if it is not so bound, used its best endeavours to assist the Controller in meeting its obligations); and

6.18.5. the Processor complies with any reasonable instructions notified to it in advance by the Controller with respect to the processing of the Police Data.

7. Data Protection and Human Rights

7.1. The processing of any Police Data shall be in accordance with the obligations imposed upon the Parties to this Contract by the Data Protection Legislation and the Human Rights Act 1998. All relevant codes of practice or data protection operating rules adopted by the Parties will also reflect the data protection practices of each of the Parties.

7.2. The Parties agree and declare that the information accessed pursuant to this Contract will be used and processed with regard to the rights and freedoms enshrined within the European Convention on Human Rights. Further, the Parties agree and declare that the provision of information is proportional, having regard to the purposes of the Contract and the steps taken in respect of maintaining a high degree of security and confidentiality.

7.3. The Parties undertake to comply with the provisions of the Data Protection Legislation and to notify any particulars as may be required to the Information Commissioner.

7.4. If any Party to this Contract receives a request for information under the provisions of the Freedom of Information Act 2000 identified as originating from another Party, the receiving Party will contact the other Party to determine whether the latter wishes to claim an exemption under the provisions of that Act.

7.5. Where the Processor receives a request for information under the provisions of the Freedom of Information Act 2000 in respect of information provided by or relating to the Controller, the Processor will contact the person nominated in **Schedule C** to ascertain whether the Controller wishes to claim any exemption including the determination of whether or not the Controller wishes to issue a response neither to confirm nor deny that information is held.

7.6. Subject to clause 7.7, the Processor shall notify the Controller immediately if it:

7.6.1. receives a Data Subject Access Request (or purported Data Subject Access Request);

7.6.2. receives a request to rectify, restricted or erase any Police Data;

7.6.3. receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;

7.6.4. receives any communication from the Information Commissioner or any other regulatory authority in connection with Police Data processed under this Contract;

7.6.5. receives a request from any third Party for disclosure of Police Data where compliance with such request is required or purported to be required by Law; or

7.6.6. becomes aware of a Data Loss Event and/or security incident in which case the form provided at **Appendix 2** to this Contract should be completed at the earliest opportunity and sent through the Processors identified individual in **Appendix 1, Section 2** which will then be forwarded to the Information Security team at West Yorkshire Police.

7.7. The Processor's obligation to notify under clause 7.6 shall include the provision of further information to the Controller in phases, as details become available.

7.8. Taking into account the nature of the processing, the Processor shall provide the Controller with full assistance in relation to either Party's obligations under Data Protection Legislation and any complaint, communication or request made under clause 7.6 (and insofar as possible within the timescales reasonably required by the Controller) including by promptly providing:

7.8.1. the Controller with full details and copies of the complaint, communication or request;

7.8.2. such assistance as is reasonably requested by the Controller to enable the Controller to comply with a Data Subject Access Request within the relevant timescales set out in the Data Protection Legislation;

7.8.3. the Controller, at its request, with any Police Data it holds in relation to a Data Subject;

7.8.4. assistance as requested by the Controller following any Data Loss Event;

7.8.5. assistance as requested by the Controller with respect to any request from the Information Commissioner's Office, or any consultation by the Controller with the Information Commissioner's Office.

7.9. The Processor shall maintain complete and accurate records and information to demonstrate its compliance with this clause. This requirement does not apply where the Processor employs fewer than 250 staff, unless:

7.9.1. the Controller determines that the processing is not occasional;

7.9.2. the Controller determines the processing includes Special Categories of Personal Data or Criminal Offence Data; and

7.9.3. the Controller determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.

7.10. The Processor shall allow for audits of its Data Processing activity by the Controller or the Controller's designated auditor.

7.11. The Processor shall designate a data protection officer if required by the Data Protection Legislation.

7.12. On reasonable notice, periodic checks may be conducted by the Controller to confirm compliance with this Contract.

7.13. The personnel authorised by the Parties to assume responsibility for Data Protection compliance, notification, security, confidentiality, audit and co-ordination of Data Subject rights and Freedom of Information are as listed in **Schedule C**.

8. Confidentiality

8.1. The Processor shall not use or divulge or communicate to any person (other than those whose province it is to know the same for the Purpose, or without the prior written authority of the Controller) any Data obtained from or created on behalf of the Controller, which it shall treat as private and confidential and safeguard accordingly.

8.2. The Processor shall ensure that any individuals who process Police Data under this Contract are aware of their responsibilities in connection with the use of that Police Data and have confirmed so in writing by completion of the Undertaking of Confidentiality set out at **Appendix 3** which will be provided to the Project Manager as a pre-requisite for that individual to process Police Data.

8.3. For the avoidance of doubt, the obligations or the confidentiality imposed on the Parties by this Contract shall continue in full force and effect after the expiry or termination of this Contract.

8.4. Respect for the privacy and rights of Data Subjects will be afforded at all stages of the Purpose.

8.5. The restriction set out in clause 8.1 shall not apply where disclosure of the Police Data is ordered by a Court of competent jurisdiction, or subject to any exemption under the Data Protection Legislation, where disclosure is required by a law enforcement agency or regulatory body or authority, or is required for the purposes of legal proceedings, in which case the Processor shall immediately notify the Controller in writing of any such requirement for disclosure of the Police Data in order to allow the Controller to make representations to the person or body making the requirement.

8.6. The restrictions contained under this clause 8 shall cease to apply to any Data which may come into the public domain otherwise than through unauthorised disclosure by the Parties.

9. Retention, Review and Deletion.

9.1. The Police Data will be retained by the Processor and then securely disposed by the Processor in accordance with **Schedule A**.

10. Security

10.1. The Processor shall, in relation to any Police Data processed in connection with its obligations under this Contract ensure that it has in place Protective Measures, which have been reviewed and approved by the Controller as appropriate to protect against a Data Loss Event having taken account of the:

10.1.1. nature of the data to be protected;

10.1.2. harm that might result from a Data Loss Event;

10.1.3. state of technological development; and

10.1.4. cost of implementing any measures.

10.2. In addition to its obligations above, the Processor shall ensure that measures are in place to do everything reasonable to:

10.2.1. make accidental compromise or damage unlikely during storage, handling, use, processing transmission or transport;

10.2.2. deter deliberate compromise or opportunist attack; and

10.2.3. promote discretion in order to avoid unauthorised access.

10.3. During the term of this Contract, The Project Manager shall carry out any checks as are reasonably necessary to ensure that the above arrangements are not compromised.

10.4. The Processor will ensure that the Police Data accessed is not used other than as identified within this Contract, and that the Contract is complied with.

10.5. Premises used for the development, hosting, and/or management of a Police system or network; or the hosting of Police and/or Government protectively marked information, will need to meet certain security standards and may be required to undergo relevant security audits.

10.6. Access to the Police Data will be confined to authorised persons only. These will be the individuals identified in the documentation attached at **Schedule B.**

10.7. The Police Data will be secured in the manner set out in **Schedule A**.

10.8. Any security incidents, breaches and newly identified vulnerabilities must be reported to the individual named in **Appendix 1, Section 2** at the earliest opportunity via the form provided at **Appendix 2** to this Contract. The individual named in **Appendix 1, Section 2** will then forward this onto the Information Security team at West Yorkshire Police.

10.9. The Controller reserves the right to undertake a review of security provided by any Processor and may request by giving at least 2 days' notice reasonable access during normal working hours to the Processor premises for this purpose. The requirement for notice will not apply if the Controller believes the Processor is in breach of any of its obligations under this Contract. Failure by the Processor to provide sufficient guarantees in respect of adequate security measures may result in the termination of this Contract.

10.10. Any access to the premises used to process or store the Police Data by maintenance, repair contractors, cleaners or other non-authorised personnel must be closely supervised to ensure that there is no access to the Police Data.

10.11. The Processor recognises that the Controller has obligations relating to the security of Data in his control under ISO27001 and the National Policing Community Security Policy. The Processor will continue to apply those relevant obligations as detailed in **Appendix 1** on behalf of the Controller during the term of this Contract.

11. Indemnity

11.1. In consideration of the provision of the Police Data for the Purpose the Processor undertakes to indemnify and keep indemnified the Controller against any liability which may be incurred by the Controller as a result of the Processor's breach of this Contract.

11.2. Provided that this indemnity shall not apply:

11.2.1. where the liability arises from information supplied by the Controller which is shown to have been incomplete or incorrect, unless the Controller establishes that the error did not result from any wilful wrongdoing or negligence on his part

11.2.2. unless the Controller notifies the Processor as soon as possible of any action, claim or demand to which this indemnity applies, commits the Processor to deal with the action, claim or demand by settlement or otherwise and renders the Processor all reasonable assistance in so dealing;

11.2.3. to the extent that the Controller makes any admission which may be prejudicial to the defence of the action, claim or demand.

12. Disputes

12.1. In the event of any dispute or difference arising between the Parties out of this Contract, the Designated Police Manager and the Project Manager or the persons appointed pursuant to clause 7.13 of this Contract shall meet in an effort to resolve the dispute or difference in good faith.

12.2. The Parties will, with the help of the Centre for Dispute Resolution, seek to resolve disputes between them by alternative dispute resolution. If the Parties fail to agree within 56 days of the initiation of the alternative dispute resolution procedure, then the Parties shall be at liberty to commence litigation.

13. Term, Termination and Variation

13.1. This Contract shall terminate on the ***(DD MONTH YYYY)*** or the completion of the Purpose, whichever be the earlier.

13.2. The Controller may at any time by notice in writing terminate this Contract forthwith if the Processor is in material breach of any obligation under this Contract or has committed more than one minor breach of any obligations under this Contract.

13.3. Where there is an agreement for services between the Parties which is dependent upon the continuation of this Contract and the Processing of Police Data by the Processor, the Controller shall be entitled to terminate the agreement for services if it terminates this Contract under clause 13.2 and shall not incur any cost in doing so.

13.4. At the discretion of the Controller this Contract shall terminate after the replacement of the Project Manager.

13.5. Either Party may terminate this Contract by giving 30 days notice in writing to the other Party.

13.6. Termination of this Contract shall not affect any accrued rights or remedies to which a Party is entitled prior to the termination.

13.7. The Processor's obligations under this Contract in regard to the Police Data shall continue indefinitely after the termination of the Contract.

13.8. The Processor shall delete or return the Police Data (and any copies of it) to the Controller in accordance with the Controller's instruction as set out in **Schedule A** on termination of the Contract unless the Processor is required by Law to retain the Police Data.

13.9. The Controller will have the final decision on any proposed variation to this Contract. No variation of the Contract shall be effective unless it is contained in a written instrument signed by both Parties and annexed to this Contract.

14. Miscellaneous

14.1. The Controller may, at any time on not less than 30 Working Days' notice to the Processor, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Contract).

14.2. The Parties agree to take account of any guidance issued by the Information Commissioner's Office. The Controller may on not less than 30 Working Days' notice to the Processor amend this Contract to ensure that it complies with any guidance issued by the Information Commissioner's Office.

14.3. This Contract acts in fulfilment of part of the responsibilities of the Controller as required by the Data Protection Legislation.

14.4. This Contract constitutes the entire agreement between the Parties as regards the subject matter hereof and supersedes all prior oral or written Contracts regarding such subject matter.

14.5. If any provision of this Contract is held by a Court of competent jurisdiction to be invalid or unenforceable, such invalidity or unenforceability shall not affect the remaining provisions of this Contract, which shall remain in full force and effect.

14.6. The validity, construction and interpretation of the Contract and any determination of the performance which it requires shall be governed by the Laws of England and the Parties hereby submit to the exclusive jurisdiction of the English Courts.

For and on behalf of the Controller	**For and on behalf of the Processor**
Signature:	Signature:
Print name:	Print name:
Job Title:	Job Title:
Date:	Date:
In the presence of	**In the presence of**
Signature:	Signature:
Print name:	Print name:
Job Title:	Job Title:
Date:	Date:

Schedule A:

Part 1: Details of the purpose for the Data Processing

Subject matter of the Processing	
Duration of the Processing	
Purposes of the Processing	
Nature of the Processing	
Vetting Requirements	
Type of Personal Data	
Categories of Data Subject	

Arrangements for return or destruction of the data once processing is complete	

Part 2: Details of legal basis for the processing

Schedule B: Details of employees of the Processor authorised to have access to and otherwise process the Police Data

Schedule C: Details of which personnel are authorised in accordance with clause 7.13

Data Protection Officer
Information Security Officer
Researcher/Processor
Project Supervisor
Project Co-supervisor

APPENDIX 1

Baseline Security Requirements for Data Processing Contracts

Introduction
All Chief Constables are committed to compliance with the ACPO/ACPOS Community Security Policy, which was based on the British Standard for Information Security Management (BS7799), now superseded by BS27001/ISO 27001.

Section 1 Information Security Policy
A written statement of Information security policy should be available for the organisations involved in the Contract.

Please attach a copy of your organisation's Information Security Policy.

Section 2 Information Security Organisation
Responsibility for information security should be allocated to an individual within the organisation.

That individual should be operating within a management framework that initiates and controls the implementation of information security.

Please advise who has designated responsibility for information security and the reporting off security/data breaches within your organisation and describe their role and the management framework within which they operate

Section 3 Assets Classification and Control

It is important to maintain appropriate protection of the computer and information assets used by the Processor.

Please list below the hardware, software and information, which will be used for the purposes of the Contract*.*

What accountability for these assets is in place? Who will be the nominated System Owner of these assets for the purpose of the Contract*?*

Section 4 Personnel Security
The Chief Constable will need to ensure the reliability of any persons having access to data.

How has the reliability of persons subject to this Contract *been assessed?*

Any persons having access to data as part of this Contract *may be required to give consent to background enquiries in accordance with Force policy. Please provide written consent as required.*

Please confirm that all persons connected with this project have received training and awareness in Data Protection and information security. A confidentiality clause will be included in the Contract which all persons involved may be required to sign.

Please confirm that all persons involved with this project are made aware of the procedure for reporting any security breaches, threats, weaknesses of malfunctions that might impact on the security of the data.

Section 5 Physical and Environmental Security
Appropriate measures should be in place to prevent unauthorised access or unlawful processing, accidental loss, destruction or damage.

Please advise details of the premises used for this purpose and in relation to each named premises:-

a) What access controls are there to the buildings?	
b) What access controls are there to the rooms?	
c) Are the windows lockable when accessible from the outside?	
d) Is the door lockable where the information is stored?	
e) Is information secured in a lockable cabinet when not in use?	
f) Is there a clear desk policy in relation to this information?	
g) Do outside contractors/maintenance/cleaning staff have access to the room?	
h) Is the information visible to unauthorised individuals, i.e., through windows, from corridors etc.	
i) Is there any intention to use portable computers for this purpose? If so, what special control measures will be deployed to protect data?	
j) Is the computer/server used to store data in connection with the project physically secured in any way (e.g. by cable to desk etc.)?	

Section 6 Computer and Network Management

In addition to the physical security outlined above, please provide details of the following:-

a) Is the computer a stand-alone? If not, What measures are taken to prevent unauthorised access via your network or from external networks?	

b) Is there a policy and procedure for the disposal of sensitive material (computer or otherwise)? What procedure is in place to ensure that the data is cleansed from computer media as it becomes obsolete for whatever reason? What procedure is in place to ensure that data held on computer media is handled appropriately when equipment is sent for repair?	
c) Are system security procedures regularly audited?	
d) Are there documented rules for the use of this system available for all users? If so, do users sign to show they have read and understood the Rules?	
e) What control measures are in place to prevent the introduction of malicious software to the system (e.g., computer viruses)?	

Section 7 System Access Controls

a) Are there controls on the system to prevent unauthorised access (i.e. Is there a mechanism for the identification and authorisation of individual users, e.g., user ID and password)?	
b) Is there an automatic log-out after an appropriate time interval?	
c) Is there a warning at log-on to forbid unauthorised use of the system?	
d) Is there an audit trail to identify who has accessed the system including time, date and which records were accessed?	
e) Who monitors the audit trails? How long are they retained and how is the security of the audit trails maintained?	

Section 8 Systems Development and Maintenance

All information systems used as part of this Contract should be designed from the outset with information security in mind to cover, as a minimum, the control measures contained in this document.

Section 9 Business Continuity Planning

a) Is there an effective backup and recovery mechanism to secure the data? And, where is this held?	
b) What security surrounds these backup facilities?	

APPENDIX 2

If a security incident and/or data breach occurs that involves data and/or information belonging to the Chief Constable of West Yorkshire Police it must be reported immediately to the Information Security Team at West Yorkshire Police. They can be reached by email: sir@westyorkshire.pnn.police.uk, tel: 09124 295699 or mob: 07525243421.

Please see the report below for the Security Incident Reporting (SIR) form that must be filled out and sent the SIR mailbox above as part of any security incident.

SECURITY INCIDENT REPORT

Incident reported by	Name	
	Employee number	
	District/Dept.	
	Rank/Job Title	
	Telephone number	

Person responsible for incident	Name	
	Employee number	
	District/Dept.	
	Rank/Job Title	
	Telephone number	

Details of Incident (please give as much detail as possible i.e. last know usage, last known location)	Date and time	
	Location	
	Circumstances (what has happened?)	
	Actions taken? e.g. looked for the lost asset, contacted the individual the email was sent to etc.	
	Have you Risk Assessed the outcome on the data subject? (please see below for guidance).	
	(If applicable) What was lost/stolen/ misplaced e.g. USB stick, camera flash card, CD etc.	
	(If applicable) Was this asset encrypted?	
	(If applicable) Did it have Anti-Virus?	
	(If applicable) What was on the asset? e.g. personal data (what type), an Op Order etc.	
	(If applicable) What information was disclosed in the email/letters? e.g. defendant's offences, medical records etc.	
	What is the Classification? e.g. OFFICIAL, PROTECT, RESTRICTED etc.	

	Who have you informed of this? e.g. line manager/breach manager	
Supportworks reference number (if applicable)		

IF YOU HAVE ANY EMAILS/LETTERS/CORRESPONDENCE INVOLVED IN THIS INCIDENT, PLEASE ATTACH A COPY WITH THE EMAIL FOR THE SIR TEAM.

Risk Assessment Guidance

This area is for you to think about what the impact might be on the data subject.

You should decide whether the data subject:

- Is unlikely to suffer and damage or distress
- May suffer damage or distress.
- May suffer financial loss or identity loss
- May result in serious injury or death.

From this decision you may decide to start some containment/recovery or mitigation factors

APPENDIX 3

UNDERTAKING OF CONFIDENTIALITY

I, NAME as an employee/appointee of NAME (the Processor) involved in the work as defined in the Data Processing Contract between

WEST YORKSHIRE POLICE

the Chief Constable of West Yorkshire Police and the Processor to which this Undertaking is appended, hereby acknowledge the responsibilities arising from this Contract.

I understand that my part in fulfilling the Purpose means that I may have access to the Data and that such access shall include

reading or viewing of information held on computer or displayed by some other electronic means, or
reading or viewing manually held information in written, verbal, printed or photographic form.

I undertake that; -

- I shall not communicate to, nor discuss with any other person, the contents of the Data except to the Chief Constable of the West Yorkshire Police (the Controller) or an official representative.

- I shall not retain, extract, copy or in any way use any Data to which I have been afforded access during the course of my duties for any other purpose.

- I will only operate computer applications or manual systems that I have been trained to use. This training will include the requirements of the General Data Protection Regulation which prescribes the way in which Police Data may be obtained, stored and processed.

- I will comply with the appropriate physical and system security procedures made known to me by the Controller or a representative.

- I will act only under instructions from the Controller, or other official representative in the Processing of any Data.

I understand that the Data is subject to the provisions of the General Data Protection Regulation and that by knowingly or recklessly acting outside the scope of this Undertaking of Confidentiality or the Contract I may incur criminal and/or civil liabilities.

I undertake to seek advice and guidance from the Processor or other relevant official of the Controller in the event that I have any doubts or concerns about my responsibilities or the authorised use of the Data and/or Aggregate Data defined in the Contract.

I have read, understood and accept the above.

Name (Please print)						
Position in Organisation						
Signature						
Date						
For West Yorkshire Police Use	VL		VB		Date	

APPENDIX D

Risk Assessment Form

SREP_Appn_Explanatory_RevJul16

THE UNIVERSITY OF HUDDERSFIELD
School of Human and Health Sciences – School Research Ethics Panel (SREP)

OUTLINE OF PROPOSAL
Please complete and return via email to:
Kirsty Thomson SREP Administrator: hss_srep@hud.ac.uk

Name of Applicant:

Title of Study:

Department: Date Sent:

Please provide sufficient detail below for SREP to assess the ethical conduct of your research. For some sections you may simply refer to attached documents, though it may be relevant to explain how these documents address particular ethical issues in your study. Throughout your application please explain how you are weighing up and addressing ethical issues, rather than assuming this is self-evident. Where your research involves tricky ethical issues or balancing opposing ethical principles, then feel free to cite and explain ethics codes or previous literature that support your proposed methods.	
Researcher(s) details	
Supervisor(s) details	
All documentation has been read by supervisor (where applicable)	
Aim / objectives	
Brief overview of research methods	
Project start date	
Project completion date	
Permissions for study	
Access to participants and recruitment	
Confidentiality	
Anonymity	

Right to withdraw	
Data Storage	
Psychological support for participants	
Researcher safety / support	
Information Sheet	

Consent and content form	
Letters / posters / flyers	

Questionnaire / Interview guide	
Dissemination of results	
Identify any potential conflicts of interest	
Does the research involve accessing data or visiting websites that could constitute a legal and/or reputational risk to yourself or the University if misconstrued?	

Is the research commissioned by, or on behalf of the military or the intelligence services?	
Is the research commissioned under an EU security call?	
Does the research involve the acquisition of security clearances?	
Does the research concern terrorist or extreme groups?	
Does the research involve covert information gathering or active deception?	

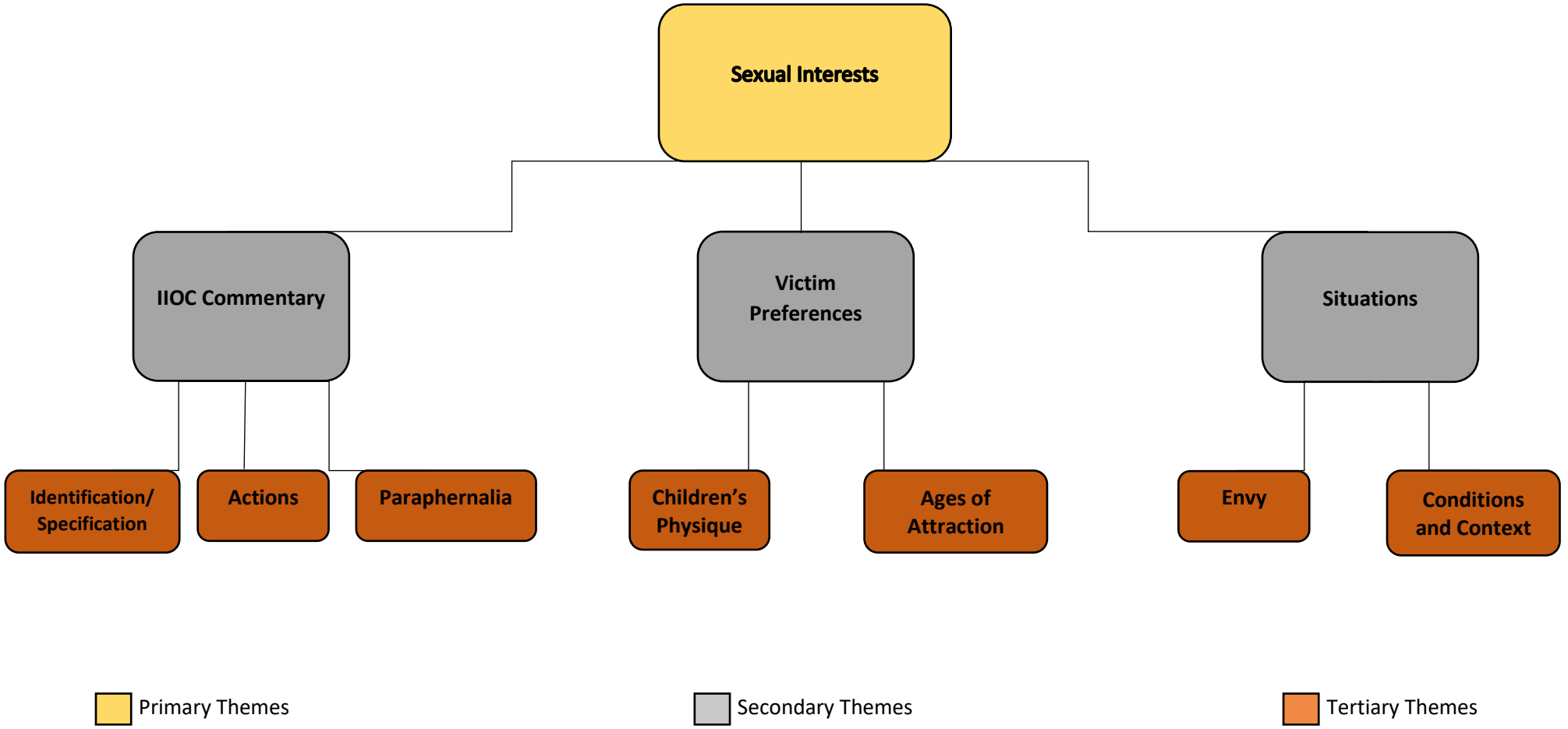
Does the research involve children under 18 or participants who may be unable to give fully informed consent?	
Does the research involve prisoners or others in custodial care (e.g. young offenders)?	
Does the research involve significantly increased danger of physical or psychological harm or risk	

of significant discomfort for the researcher(s) and/or the participant(s), either from the research process or from the publication of findings?	
Does the research involve risk of unplanned disclosure of information you would be obliged to act on?	
Other issues	

Where application is to be made to NHS Research Ethics Committee / other external agencies e.g. National Offender Management Scheme	
Please supply copies of all relevant supporting documentation electronically. If this is not available electronically, please provide explanation and supply hard copy	

APPENDIX E

Example of study's thematic hierarchies



APPENDIX F

Linguistic Inquiry Word Count (2015): Essential information

LIWC (2015) dimension	Output label	Examples	General Population scores (Avg % in text and speech)	Psychological Correlates
Word Count	WC	N/A	N/A	Talkativeness/ verbal fluency, deception, contact offence intentions among child sex groomers
Summary Variable		N/A	N/A	N/A
Analytical Thinking	Analytic	N/A	56.34	Attention, concentration, problem solving
Clout	Clout	N/A	57.95	Confidence, pride, contact offence intentions among child sex groomers
Authentic	Authentic	N/A	49.17	
Emotional Tone	Tone	N/A	54.22	
Language Metrics		N/A	N/A	
Words per sentence	WPS	Sentence wordcount	17.40	Verbal fluency, cognitive complexity
Words>6 letters	Sixltr	University, doctoral	15.60	Educational, social class
Dictionary words	Dic	% of words categorised	85.18	Informal, nontechnical language
Function Words	function		51.87	
Total pronouns	pronoun	I, them, itself	15.22	Informal, personal
Personal pronouns	ppron	I, them, her	9.95	Personal, social
1st person singular	I	I, me, mine	4.99	Honest, depressed, low social status, personal, emotional, informal
1st person plural	we	We, us, our	0.72	Detached, high status, socially connected to group, contact offence intentions among child sex groomers
2nd person	you	You, your, thou	1.70	Social, elevated status
3rd person singular	shehe	She, her, him	1.88	Social interests, social support, deception
3rd person plural	they	They, their, they'd	0.66	Social interests, out-group awareness, honesty, deception
Impersonal pronouns	ipron	It, it's, those	5.26	N/A
Articles	article	A, an, the	6.51	Use of concrete nouns, interest in objects or things
Prepositions	prep	To, with, above	12.93	Education, concern with precision
Auxiliary verbs	auxverb	Am, will, have	8.53	Informal, passive voice

Common adverbs	adverb	Very, really, quickly	5.27	N/A
Conjunctions	conj	And, but, whereas	5.90	N/A
Negations	negate	Not, not never	1.66	Inhibition
Grammar Other			N/A	
Regular verbs	verb	Walk, went, see	16.44	N/A
Adjectives	adj	Rainy, small, fast	4.49	Hyperbole/exaggerations
Comparatives	compare	After, exactly, like	2.23	N/A
Interrogatives	interrog	What, how, whoever	1.61	N/A
Numbers	number	Second, thousand	2.12	N/A
Quantifiers	quant	Few, many, much	2.02	N/A
Affect Words	affect	Happy, cried, abandon	5.57	Emotionality
Positive emotion	posemo	Love, nice, sweet	3.67	Contact offence intentions among child sex groomers
Negative emotion	Negemo	Hurt, ugly, nasty	1.84	Deception, depression, negative affect, contact offence intentions among child sex groomers
Anxiety	anx	Worried, nervous	0.31	Insecurity
Anger	anger	Hate, kill, annoyed	0.54	Narcissism
Sadness	sad	Crying, grief, sad	0.41	Negative affect, stress
Social Words	social	Mate, they, child, talk	9.74	Social concerns, social support, academic performance
Family	family	Daughter, husband	0.44	Social concerns, academic performance
Friends	friend	Buddy, neighbour	0.36	Social concerns, academic performance
Female referents	female	Woman, lady, girl	0.98	N/A
Male referents	male	Man, sire, boy	1.65	N/A
Cognitive Processes	cogproc	Cause, know, ought	10.61	Regulation of emotion
Insight	Insight	Think, know, consider	2.16	Active reprisal of past events, health and emotional improvements, reconstrual statements
Cause	cause	How, used, change	1.40	N/A
Discrepancies	discrep	Should, would, could	1.44	Negatively associated with clout
Tentativeness	tentat	Maybe, guess, perhaps	2.52	Negatively associated with narcissism
Certainty	certain	Always, never	1.35	Social/verbal skills, emotional stability
Differentiation	differ	Not, if, or, though	2.99	N/A
Perpetual Processes	percept	Observe, heard, feel	2.70	
Seeing	see	View, saw, seen	1.08	Honesty
Hearing	hear	Listen, hearing	0.83	Honesty

Feeling	feel	Feels, touch	0.64	Honesty
Biological Processes	bio	Eat, blood, pain	2.03	
Body	body	Cheek, hands, spit	0.69	N/A
Health/illness	health	Clinic, flu, pill	0.59	N/A
Sexuality	Sexual	Horny, love, incest	0.13	Narcissism, contact offence intentions among child sex groomers (when especially prevalent)
Ingesting	ingest	Dish, eat, pizza	0.57	N/A
Core Drives and Needs	drives	Talking, oversee, win	6.93	
Affiliation	Affiliation	Chat, welcome, share	2.05	Fitness for social career, concrete experience learning styles, trust
Achievement	Achieve	Plans, top, work	1.30	Fitness for in artistic, investigative and realistic careers, active experimentation and abstract conceptualisation learning styles
Power	Power	Over, force, manage	2.35	Fitness for conventional and enterprising career, responsiveness to reflective observation learning, greater use or expectations of violence, extremism
Reward focus	reward	Lucky, got, bet	1.46	N/A
Risk/prevention focus	risk	Risky, careful, danger	0.47	N/A
Time Orientation			N/A	
Past focus	focuspast	Got, was, had	4.64	Psychopathy, dream narratives
Present focus	focuspresent	Now, want, today	9.96	Poorer academic performance
Future focus	focusfuture	Plans, then, wont	1.42	N/A
Relativity	relativ	Area, bend, go	14.26	
Motion	motion	Arrive, car, go	2.15	Deception
Space	space	Down, in, thin	6.89	Deception
Time	time	End, until, season	5.46	N/A
Personal Concerns			N/A	
Work	work	Job, majors, xerox	2.56	N/A
Leisure	leisure	Cook, chat, movie	1.35	N/A
Home	home	Apartment, kitchen	0.55	Poorer academic performance, narcissism
Money	money	Audit, cash, owe	0.68	N/A
Religion	relig	Praying, church, mosque	0.28	Suicidal tendencies, life stressors
Death	death	Bury, coffin, kill	0.16	Suicidal tendencies, life stressors, self-focus

Informal Speech	informal		2.52	
Swear words	swear	Fuck, shit, damn	0.21	Narcissism, negative emotions
Netspeak	netspeak	LOL, BRB, wat, u	0.97	N/A
Assent	assent	OK, agree, yes	0.95	Agreement, passivity
Non-fluencies	nonfl	Er, hm, umm	0.54	Psychopathy
Fillers	filler	Blah, Imean, yaknow	0.11	Informal, unprepared speech
All Punctuation[5]	Allpunc		20.47	Better academic performance
Periods	Period	N/A	7.46	N/A
Commas	Comma	N/A	4.73	N/A
Colons	Colon	N/A	0.63	N/A
Semicolons	SemiC	N/A	0.30	N/A
Question marks	QMark	N/A	0.58	N/A
Exclamation marks	Exclam	N/A	1.00	N/A
Dashes	Dash	N/A	1.19	N/A
Quotation marks	Quote	N/A	1.19	N/A
Apostrophes	Apostro	N/A	2.13	N/A
Parentheses (pairs)	Parenth	N/A	0.52	N/A
Other punctuation	OtherP	N/A	0.72	N/A

*For further information, see Tausczik and Pennebaker (2010) and/or the developers' website: https://liwc.wpengine.com/compare-dictionaries/

APPENDIX G

Games-Howell test output for Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.57	5.54	.893	-31.72	26.57
	ECOs	-9.85	5.77	.387	-48.72	29.02
MCOs	LCOs	2.57	5.54	.893	-26.57	31.72
	ECOs	-7.27	5.17	.443	-31.22	16.67
ECOs	LCOs	9.85	5.77	.387	-29.02	48.72
	MCOs	7.27	5.17	.443	-16.67	31.22

Games-Howell test output for Personal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.51	5.20	.887	-40.79	35.76
	ECOs	-11.32	6.33	.364	-53.31	30.66
MCOs	LCOs	2.51	5.20	.887	-35.76	40.79
	ECOs	-8.81	5.27	.409	-48.58	30.96
ECOs	LCOs	11.32	6.33	.364	-30.66	53.31
	MCOs	8.81	5.27	.409	-30.96	48.58

Games-Howell test output for Impersonal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.07	1.50	.999	-5.27	5.12
	ECOs	1.45	0.70	.407	-12.35	15.26
MCOs	LCOs	0.07	1.50	.999	-5.12	5.27
	ECOs	1.53	1.65	.646	-3.85	6.91
ECOs	LCOs	-1.45	0.70	.407	-15.26	12.35
	MCOs	-1.53	1.65	.646	-6.91	3.85

Games-Howell test output for I

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.71	3.43	.617	-30.39	22.97
	ECOs	-1.73	3.23	.867	-39.23	35.76
MCOs	LCOs	3.71	3.43	.617	-22.97	30.39
	ECOs	1.97	2.16	.659	-5.72	9.67
ECOs	LCOs	1.735	3.23	.867	-35.76	39.23
	MCOs	-1.97	2.16	.659	-9.67	5.72

Games-Howell test output for She/He

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	2.43	1.04	.127	-0.96	5.84
	ECOs	-2.27	7.01	.947	-166.04	161.50
MCOs	LCOs	-2.43	1.04	.127	-5.84	0.96
	ECOs	-4.70	7.06	.818	-157.59	148.17
ECOs	LCOs	2.27	7.01	.947	-161.50	166.04
	MCOs	4.70	7.06	.818	-148.17	157.59

Games-Howell test output for You

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.943	1.22	.732	-4.91	3.02
	ECOs	-7.87	3.80	.413	-91.50	75.75
MCOs	LCOs	0.94	1.22	.732	-3.02	4.91
	ECOs	-6.93	3.94	.449	-69.01	55.15
ECOs	LCOs	7.875	3.80	.413	-75.75	91.50
	MCOs	6.93	3.94	.449	-55.15	69.01

Games-Howell test output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.96	2.52	.598	-30.92	24.99
	ECOs	4.09	2.48	.461	-27.79	35.97
MCOs	LCOs	2.96	2.52	.598	-24.99	30.92
	ECOs	7.05	1.36	.016*	1.70	12.41
ECOs	LCOs	-4.09	2.48	.461	-35.97	27.79
	MCOs	-7.05	1.36	.016*	-12.41	-1.70

Games-Howell test output for Auxiliary verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.54	2.88	.869	-44.26	41.17
	ECOs	-0.09	3.58	1.00	-24.67	24.49
MCOs	LCOs	1.54	2.88	.869	-41.17	44.26
	ECOs	1.45	2.46	.845	-29.85	32.77
ECOs	LCOs	0.09	3.58	1.00	-24.49	24.67
	MCOs	-1.45	2.46	.845	-32.77	29.85

Games-Howell test output for Past focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	3.38	2.57	.547	-24.63	31.41
	ECOs	4.95	2.45	.398	-34.47	44.37
MCOs	LCOs	-3.38	2.57	.547	-31.41	24.63
	ECOs	1.563	1.25	.479	-2.70	5.83
ECOs	LCOs	-4.95	2.45	.398	-44.37	34.47
	MCOs	-1.56	1.25	.479	-5.83	2.70

Games-Howell test output for Present focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.10	3.02	.45	-43.69	33.48
	ECOs	-4.42	7.05	.828	-86.78	77.93
MCOs	LCOs	5.10	3.02	.45	-33.48	43.69
	ECOs	0.67	6.54	.994	-134.50	135.85
ECOs	LCOs	4.42	7.05	.828	-77.93	86.78
	MCOs	-0.67	6.54	.994	-135.85	134.50

Games-Howell test output for Future focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.84	0.53	.372	-3.12	1.43
	ECOs	-0.46	0.92	.881	-11.00	10.07
MCOs	LCOs	0.84	0.53	.372	-1.43	3.12
	ECOs	0.37	0.92	.917	-9.54	10.30
ECOs	LCOs	0.46	0.92	.881	-10.07	11.00
	MCOs	-0.37	0.92	.917	-10.30	9.54

Games-Howell test output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.01	5.82	.694	-29.48	19.44
	ECOs	-6.52	5.37	.555	-43.20	30.16
MCOs	LCOs	5.018	5.82	.694	-19.44	29.48
	ECOs	-1.501	5.40	.959	-21.75	18.75
ECOs	LCOs	6.52	5.37	.555	-30.16	43.20
	MCOs	1.50	5.40	.959	-18.75	21.75

Games-Howell test output for Positive emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.07	4.69	.800	-20.91	14.76
	ECOs	-7.98	5.42	.470	-49.97	34.00
MCOs	LCOs	3.071	4.69	.800	-14.76	20.91
	ECOs	-4.91	5.71	.704	-35.39	25.56
ECOs	LCOs	7.98	5.42	.470	-34.00	49.97
	MCOs	4.91	5.71	.704	-25.56	35.39

Games-Howell test output for Negative emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.94	1.83	.576	-8.22	4.34
	ECOs	1.46	1.43	.637	-8.07	11.00
MCOs	LCOs	1.94	1.83	.576	-4.34	8.22
	ECOs	3.40	1.81	.235	-2.75	9.56
ECOs	LCOs	-1.46	1.43	.637	-11.00	8.07
	MCOs	-3.40	1.81	.235	-9.56	2.75

Games-Howell test output for Anger

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.73	1.65	.578	-7.13	3.66
	ECOs	1.06	1.18	.700	-8.67	10.80
MCOs	LCOs	1.73	1.65	.578	-3.66	7.13
	ECOs	2.8	1.83	.350	-3.39	8.99
ECOs	LCOs	-1.06	1.18	.700	-10.80	8.67
	MCOs	-2.8	1.83	.350	-8.99	3.39

Games-Howell test output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	20.03	.442	-62.81	119.14
	ECOs	-20.00	14.72	.574	-364.81	324.81
MCOs	LCOs	-28.16	20.037	.442	-119.14	62.81
	ECOs	-48.16	13.64	.037*	-95.29	-1.02
ECOs	LCOs	20.00	14.72	.574	-324.81	364.81
	MCOs	48.16	13.64	.037*	1.02	95.29

APPENDIX H

Holm-Hochberg analyses output for Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.57	6.39	0.96	-22.10	16.95
	ECOs	-9.85	7.82	0.54	-33.76	14.06
MCOs	LCOs	2.57	6.39	0.96	-16.95	22.10
	ECOs	-7.27	6.39	0.61	-26.80	12.25
ECOs	LCOs	9.85	7.82	0.54	-14.06	33.76
	MCOs	7.27	6.391	0.61	-12.25	26.80

Holm-Hochberg analyses output for Personal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.52	5.36	0.95	-18.90	13.87
	ECOs	-11.33	6.57	0.31	-31.39	8.74
MCOs	LCOs	2.52	5.36	0.95	-13.87	18.90
	ECOs	-8.81	5.36	0.35	-25.19	7.57
ECOs	LCOs	11.33	6.57	0.31	-8.74	31.39
	MCOs	8.81	5.36	0.35	-7.57	25.19

Holm-Hochberg analyses for Impersonal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.08	2.56	1.00	-7.89	7.74
	ECOs	1.46	3.13	0.95	-8.12	11.03
MCOs	LCOs	0.08	2.56	1.00	-7.74	7.89
	ECOs	1.53	2.56	0.91	-6.29	9.35
ECOs	LCOs	-1.46	3.13	0.95	-11.03	8.12
	MCOs	-1.53	2.56	0.91	-9.35	6.29

Holm-Hochberg analyses output for I

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.71	3.25	0.61	-13.65	6.22
	ECOs	-1.74	3.98	0.96	-13.90	10.43
MCOs	LCOs	3.71	3.25	0.61	-6.22	13.65
	ECOs	1.98	3.25	0.90	-7.96	11.91
ECOs	LCOs	1.74	3.98	0.96	-10.43	13.90
	MCOs	-1.98	3.25	0.90	-11.91	7.96

Holm-Hochberg analyses output for She/He

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	2.44	3.46	0.86	-8.13	13.00
	ECOs	-2.27	4.23	0.93	-15.21	10.67
MCOs	LCOs	-2.44	3.46	0.86	-13.00	8.13
	ECOs	-4.71	3.46	0.48	-15.27	5.86
ECOs	LCOs	2.27	4.23	0.93	-10.67	15.21
	MCOs	4.71	3.46	0.48	-5.86	15.27

Holm-Hochberg analyses output for You

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.94	2.53	0.97	-8.66	6.78
	ECOs	-7.88	3.09	0.10	-17.33	1.58
MCOs	LCOs	0.94	2.53	0.97	-6.78	8.66
	ECOs	-6.93	2.53	0.08	-14.65	0.79
ECOs	LCOs	7.88	3.09	0.10	-1.58	17.33
	MCOs	6.93	2.53	0.08	-0.79	14.65

Holm-Hochberg analyses output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.43	-9.17	3.23
	ECOs	4.09	2.49	0.34	-3.50	11.68
MCOs	LCOs	2.97	2.03	0.43	-3.23	9.17
	ECOs	7.05667*	2.03	0.03	0.86	13.26
ECOs	LCOs	-4.09	2.49	0.34	-11.68	3.50
	MCOs	-7.05667*	2.03	0.03	-13.26	-0.86

Holm-Hochberg analyses output for Auxiliary verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.55	2.17	0.85	-8.16	5.07
	ECOs	-0.09	2.65	1.00	-8.19	8.01
MCOs	LCOs	1.55	2.17	0.85	-5.07	8.16
	ECOs	1.46	2.17	0.87	-5.16	8.07
ECOs	LCOs	0.09	2.65	1.00	-8.01	8.19
	MCOs	-1.46	2.17	0.87	-8.07	5.16

Holm-Hochberg analyses output for Past focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	3.39	2.07	0.35	-2.94	9.71
	ECOs	4.95	2.53	0.23	-2.80	12.70
MCOs	LCOs	-3.39	2.07	0.35	-9.71	2.94
	ECOs	1.56	2.07	0.83	-4.76	7.89
ECOs	LCOs	-4.95	2.53	0.23	-12.70	2.80
	MCOs	-1.56	2.07	0.83	-7.89	4.76

Holm-Hochberg analyses output for Present focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.10	3.58	0.45	-16.03	5.83
	ECOs	-4.43	4.38	0.69	-17.81	8.96
MCOs	LCOs	5.10	3.58	0.45	-5.83	16.03
	ECOs	0.68	3.58	1.00	-10.25	11.61
ECOs	LCOs	4.43	4.38	0.69	-8.96	17.81
	MCOs	-0.68	3.58	1.00	-11.61	10.25

Holm-Hochberg analyses output for Future focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.84	0.76	0.63	-3.17	1.48
	ECOs	-0.47	0.93	0.94	-3.31	2.38
MCOs	LCOs	0.84	0.76	0.63	-1.48	3.17
	ECOs	0.38	0.76	0.94	-1.94	2.70
ECOs	LCOs	0.47	0.93	0.94	-2.38	3.31
	MCOs	-0.38	0.76	0.94	-2.70	1.94

Holm-Hochberg analyses output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.43	-9.17	3.23
	ECOs	4.09	2.49	0.34	-3.50	11.68
MCOs	LCOs	2.97	2.03	0.43	-3.23	9.17
	ECOs	7.05667*	2.03	0.03	0.86	13.26
ECOs	LCOs	-4.09	2.49	0.34	-11.68	3.50
	MCOs	-7.05667*	2.03	0.03	-13.26	-0.86

Holm-Hochberg analyses output for Positive emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.07	6.46	0.95	-22.80	16.66
	ECOs	-7.99	7.91	0.69	-32.15	16.18
MCOs	LCOs	3.07	6.46	0.95	-16.66	22.80
	ECOs	-4.91	6.46	0.83	-24.65	14.82
ECOs	LCOs	7.99	7.91	0.69	-16.18	32.15
	MCOs	4.91	6.46	0.83	-14.82	24.65

Holm-Hochberg analyses output for Negative emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.94	2.64	0.84	-10.00	6.12
	ECOs	1.47	3.23	0.96	-8.41	11.34
MCOs	LCOs	1.94	2.64	0.84	-6.12	10.00
	ECOs	3.41	2.64	0.52	-4.65	11.46
ECOs	LCOs	-1.47	3.23	0.96	-11.34	8.41
	MCOs	-3.41	2.64	0.52	-11.46	4.65

Holm-Hochberg analyses output for Anger

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.74	2.64	0.88	-9.81	6.34
	ECOs	1.07	3.24	0.98	-8.82	10.95
MCOs	LCOs	1.74	2.64	0.88	-6.34	9.81
	ECOs	2.80	2.64	0.66	-5.27	10.87
ECOs	LCOs	-1.07	3.24	0.98	-10.95	8.82
	MCOs	-2.80	2.64	0.66	-10.87	5.27

Holm-Hochberg analyses output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	23.90	0.59	-44.86	101.18
	ECOs	-20.00	29.27	0.87	-109.43	69.43
MCOs	LCOs	-28.16	23.90	0.59	-101.18	44.86
	ECOs	-48.16	23.90	0.21	-121.18	24.86
ECOs	LCOs	20.00	29.27	0.87	-69.43	109.43
	MCOs	48.16	23.90	0.21	-24.86	121.18

APPENDIX I

Bonferroni analyses output for Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.57	6.39	1.00	-22.56	17.42
	ECOs	-9.85	7.83	0.75	-34.33	14.63
MCOs	LCOs	2.57	6.39	1.00	-17.42	22.56
	ECOs	-7.28	6.39	0.88	-27.27	12.71
ECOs	LCOs	9.85	7.83	0.75	-14.63	34.33
	MCOs	7.28	6.39	0.88	-12.71	27.27

Bonferroni analyses output for Personal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.52	5.36	1.00	-19.28	14.25
	ECOs	-11.33	6.57	0.39	-31.86	9.21
MCOs	LCOs	2.52	5.36	1.00	-14.25	19.28
	ECOs	-8.81	5.36	0.43	-25.58	7.96
ECOs	LCOs	11.33	6.57	0.39	-9.21	31.86
	MCOs	8.81	5.36	0.43	-7.96	25.58

Bonferroni analyses output for Impersonal Pronouns

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.08	2.56	1.00	-8.08	7.93
	ECOs	1.46	3.13	1.00	-8.35	11.26
MCOs	LCOs	0.08	2.56	1.00	-7.93	8.08
	ECOs	1.53	2.56	1.00	-6.47	9.53
ECOs	LCOs	-1.46	3.13	1.00	-11.26	8.35
	MCOs	-1.53	2.56	1.00	-9.53	6.47

Bonferroni analyses output for I

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.71	3.25	0.87	-13.88	6.46
	ECOs	-1.74	3.98	1.00	-14.19	10.72
MCOs	LCOs	3.71	3.25	0.87	-6.46	13.88
	ECOs	1.98	3.25	1.00	-8.19	12.15
ECOs	LCOs	1.74	3.98	1.00	-10.72	14.19
	MCOs	-1.98	3.25	1.00	-12.15	8.19

Bonferroni analyses output for She/He

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	2.44	3.46	1.00	-8.38	13.25
	ECOs	-2.27	4.23	1.00	-15.51	10.97
MCOs	LCOs	-2.44	3.46	1.00	-13.25	8.38
	ECOs	-4.71	3.46	0.65	-15.52	6.11
ECOs	LCOs	2.27	4.23	1.00	-10.97	15.51
	MCOs	4.71	3.46	0.65	-6.11	15.52

Bonferroni analyses output for You

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.94	2.53	1.00	-8.84	6.96
	ECOs	-7.88	3.09	0.12	-17.55	1.80
MCOs	LCOs	0.94	2.53	1.00	-6.96	8.84
	ECOs	-6.93	2.53	0.09	-14.83	0.97
ECOs	LCOs	7.88	3.09	0.12	-1.80	17.55
	MCOs	6.93	2.53	0.09	-0.97	14.83

Bonferroni analyses output for Verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-2.97	2.03	0.56	-9.31	3.38
	ECOs	4.09	2.49	0.43	-3.68	11.86
MCOs	LCOs	2.97	2.03	0.56	-3.38	9.31
	ECOs	7.05667*	2.03	0.03	0.71	13.40
ECOs	LCOs	-4.09	2.49	0.43	-11.86	3.68
	MCOs	-7.05667*	2.03	0.03	-13.40	-0.71

Bonferroni analyses output for Auxiliary verbs

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.55	2.17	1.00	-8.32	5.23
	ECOs	-0.09	2.65	1.00	-8.39	8.21
MCOs	LCOs	1.55	2.17	1.00	-5.23	8.32
	ECOs	1.46	2.17	1.00	-5.32	8.23
ECOs	LCOs	0.09	2.65	1.00	-8.21	8.39
	MCOs	-1.46	2.17	1.00	-8.23	5.32

Bonferroni analyses output for Past focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	3.39	2.07	0.44	-3.09	9.86
	ECOs	4.95	2.53	0.28	-2.98	12.88
MCOs	LCOs	-3.39	2.07	0.44	-9.86	3.09
	ECOs	1.56	2.07	1.00	-4.91	8.04
ECOs	LCOs	-4.95	2.53	0.28	-12.88	2.98
	MCOs	-1.56	2.07	1.00	-8.04	4.91

Bonferroni analyses output for Present focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.10	3.58	0.59	-16.29	6.09
	ECOs	-4.43	4.38	1.00	-18.13	9.28
MCOs	LCOs	5.10	3.58	0.59	-6.09	16.29
	ECOs	0.68	3.58	1.00	-10.51	11.86
ECOs	LCOs	4.43	4.38	1.00	-9.28	18.13
	MCOs	-0.68	3.58	1.00	-11.86	10.51

Bonferroni analyses output for Future focus

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-0.84	0.76	0.91	-3.22	1.53
	ECOs	-0.47	0.93	1.00	-3.38	2.45
MCOs	LCOs	0.84	0.76	0.91	-1.53	3.22
	ECOs	0.38	0.76	1.00	-2.00	2.76
ECOs	LCOs	0.47	0.93	1.00	-2.45	3.38
	MCOs	-0.38	0.76	1.00	-2.76	2.00

Bonferroni analyses output for Affect

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-5.02	7.38	1.00	-28.11	18.07
	ECOs	-6.52	9.04	1.00	-34.80	21.76
MCOs	LCOs	5.02	7.38	1.00	-18.07	28.11
	ECOs	-1.50	7.38	1.00	-24.59	21.59
ECOs	LCOs	6.52	9.04	1.00	-21.76	34.80
	MCOs	1.50	7.38	1.00	-21.59	24.59

Bonferroni analyses output for Positive emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-3.07	6.46	1.00	-23.27	17.13
	ECOs	-7.99	7.91	1.00	-32.72	16.75
MCOs	LCOs	3.07	6.46	1.00	-17.13	23.27
	ECOs	-4.91	6.46	1.00	-25.11	15.28
ECOs	LCOs	7.99	7.91	1.00	-16.75	32.72
	MCOs	4.91	6.46	1.00	-15.28	25.11

Bonferroni analyses output for Negative emotions

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.94	2.64	1.00	-10.19	6.31
	ECOs	1.47	3.23	1.00	-8.64	11.57
MCOs	LCOs	1.94	2.64	1.00	-6.31	10.19
	ECOs	3.41	2.64	0.71	-4.84	11.65
ECOs	LCOs	-1.47	3.23	1.00	-11.57	8.64
	MCOs	-3.41	2.64	0.71	-11.65	4.84

Bonferroni analyses output for Anger

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	-1.74	2.64	1.00	-10.00	6.53
	ECOs	1.07	3.24	1.00	-9.06	11.19
MCOs	LCOs	1.74	2.64	1.00	-6.53	10.00
	ECOs	2.80	2.64	0.97	-5.46	11.06
ECOs	LCOs	-1.07	3.24	1.00	-11.19	9.06
	MCOs	-2.80	2.64	0.97	-11.06	5.46

Bonferroni analyses output for Clout

CSO Categories	Pairwise Comparisons	Mean Difference	Standard Error	Significance (α= 0.05)	Upper Bound	Lower Bound
LCOs	MCOs	28.16	23.90	0.83	-46.58	102.90
	ECOs	-20.00	29.27	1.00	-111.54	71.54
MCOs	LCOs	-28.16	23.90	0.83	-102.90	46.58
	ECOs	-48.16	23.90	0.25	-122.90	26.58
ECOs	LCOs	20.00	29.27	1.00	-71.54	111.54
	MCOs	48.16	23.90	0.25	-26.58	122.90

APPENDIX J

LIWC (2015) scores for CSOs' offender categories

LIWC (2015) dimension	Output label	Extremely Concerning Offenders (n=2)	Moderately Concerning Offenders (n=6)	Least Concerning Offenders (n=2)	WYP's combined sample (N=10)
Word Count	WC	84	1874.67	1293	1400.2
Summary Variable					
Analytical Thinking	Analytic	13.29	41.16	72.43	41.84
Clout	Clout	95.36	47.20	75.36	62.46
Authentic	Authentic	2.29	43.86	20.54	30.88
Emotional Tone	Tone	99	53.21	58.67	63.46
Language Metrics					
Words per sentence	WPS	84	63.59	24.12	59.78
Words>6 letters	Sixltr	7.085	9.98	13.64	10.13
Dictionary words	Dic	97.46	93.84	89.80	93.75
Function Words	function	50.07	44.23	46.21	45.79
Total pronouns	pronoun	24.17	16.89	14.32	17.83
Personal pronouns	ppron	21.47	12.67	10.15	13.92
1st person singular	I	4.69	6.67	2.96	5.53
1st person plural	we	0.00	0.67	0.06	0.42
2nd person	you	9.78	2.85	1.91	4.05
3rd person singular	shehe	7	2.29	4.73	3.72
3rd person plural	they	0.00	0.19	0.50	0.21
Impersonal pronouns	ipron	2.69	4.23	4.15	3.90
Articles	article	1.00	2.68	5.72	2.95
Prepositions	prep	6.54	8.68	14.06	9.33
Auxiliary verbs	auxverb	5.69	7.15	5.61	6.55

Common adverbs	adverb	9.81	4.07	5.70	5.54
Conjunctions	conj	6.12	5.19	2.53	4.84
Negations	negate	0.42	2.60	0.80	1.81
Grammar Other					
Regular verbs	verb	11.08	18.14	15.18	16.14
Adjectives	adj	9.35	5.86	5.63	6.51
Comparatives	compare	0.00	1.12	1.43	0.96
Interrogatives	interrog	2.54	2.33	0.58	2.02
Numbers	number	5.66	4.04	3.75	4.30
Quantifiers	quant	3.42	4.18	1.39	3.47
Affect Words	affect	13.47	11.97	6.96	11.27
Positive emotion	posemo	12.475	7.56	4.49	7.93
Negative emotion	negemo	1.00	4.41	2.47	3.34
Anxiety	anx	0.00	0.01	0.08	0.02
Anger	anger	1.00	3.80	2.07	2.89
Sadness	sad	0.00	0.40	0.24	0.29
Social Words	social	16.78	13.89	13.43	14.37
Family	family	0.00	1.89	0.22	1.18
Friends	friend	1.69	0.60	0.92	0.88
Female referents	female	0.00	3.05	6.26	3.08
Male referents	male	9.12	0.55	0.92	2.34
Cognitive Processes	cogproc	6.51	9.38	8.46	8.62
Insight	insight	0.00	0.90	0.44	0.63
Cause	cause	0.84	0.67	1.15	0.80
Discrepancies	discrep	1.69	1.42	0.94	1.38
Tentativeness	tentat	3.54	2.84	1.79	2.77
Certainty	certain	0.00	0.65	3.45	1.08
Differentiation	differ	2.69	3.42	1.43	2.88
Perpetual Processes	percept	5.39	4.16	5.36	4.65
Seeing	see	1.845	2.81	3.92	2.84
Hearing	hear	0.425	0.17	0.84	0.36
Feeling	feel	3.12	0.83	0.64	1.25
Biological Processes	bio	9.69	8.72	7.98	8.76

Body	body	4.69	2.88	4.39	3.54
Health/illness	health	0.00	0.18	0.16	0.14
Sexuality	sexual	4.27	6.67	4.55	5.77
Ingesting	ingest	0.00	0.06	0.02	0.04
Core Drives and Needs	drives	11.93	7.53	7.35	8.37
Affiliation	affiliation	7.12	4.66	2.51	4.72
Achievement	achieve	0.42	0.36	0.28	0.36
Power	power	0.42	1.12	1.71	1.10
Reward focus	reward	3.96	1.18	2.92	2.09
Risk/prevention focus	risk	0.00	0.29	0.06	0.19
Time Orientation					
Past focus	focuspast	2.69	4.26	7.65	4.62
Present focus	focuspresent	11.54	12.22	7.12	11.06
Future focus	focusfuture	0.84	1.22	0.38	0.98
Relativity	relativ	9.39	12.06	16.72	12.46
Motion	motion	0.42	1.55	0.84	1.18
Space	space	6.27	6.15	10.45	7.03
Time	time	3.69	4.45	5.62	4.53
Personal Concerns					
Work	work	0.00	0.32	1.15	0.42
Leisure	leisure	1.27	0.41	1.31	0.76
Home	home	1.00	0.61	0.06	0.58
Money	money	0.42	0.34	0.86	0.46
Religion	relig	0.00	0.23	0.20	0.18
Death	death	0.00	0.13	0.00	0.08

APPENDIX K

LIWC scores for individual CSOs

LIWC (2015) Dimension	Case 1 ECO	Case 2 LCO	Case 3 MCO	Case 4 MCO	Case 5 LCO	Case 6 MCO	Case 7 MCO	Case 8 MCO	Case 9 ECO	Case 10 MCO
Word Count	118	2516	10157	659	70	16	143	126	50	147
Summary Variable										
Analytical Thinking	22.87	49.33	28.04	54.76	95.52	56.25	36.24	57.64	3.71	14.03
Clout	96.22	60.66	92.76	77.60	90.06	50.00	36.32	21.36	94.50	5.14
Authentic	3.58	27.92	26.16	11.55	13.15	1.00	59.06	68.01	1.00	97.35
Emotional Tone	99.00	91.56	97.99	73.89	25.77	99.00	38.18	1.00	99.00	9.18
Language Metrics										
Words per sentence	118.00	13.24	69.57	131.80	35.00	5.33	20.43	7.41	50.00	147.00
Words>6 letters	10.17	8.70	9.10	12.44	18.57	12.50	11.19	7.14	4.00	7.48
Dictionary words	94.92	92.45	95.05	94.23	87.14	93.75	89.51	95.24	100.00	95.24
Function Words	38.14	50.99	52.47	42.19	41.43	18.75	46.85	50.00	62.00	55.10
Total pronouns	20.34	18.64	22.11	17.00	10.00	0.00	20.98	22.22	28.00	19.05
Personal pronouns	16.95	14.59	16.58	15.02	5.71	0.00	18.88	11.90	26.00	13.61
1st person singular	3.39	5.92	5.18	4.86	0.00	0.00	10.49	7.94	6.00	11.56
1st person plural	0.00	0.12	0.83	0.91	0.00	0.00	0.70	1.59	0.00	0.00
2nd person	13.56	2.38	7.80	2.73	1.43	0.00	3.50	2.38	6.00	0.68
3rd person singular	0.00	5.17	2.42	5.77	4.29	0.00	4.20	0.00	14.00	1.36
3rd person plural	0.00	0.99	0.35	0.76	0.00	0.00	0.00	0.00	0.00	0.00
Impersonal pronouns	3.39	4.01	5.52	1.97	4.29	0.00	2.10	10.32	2.00	5.44
Articles	0.00	4.29	2.49	1.67	7.14	0.00	3.50	6.35	2.00	2.04
Prepositions	5.08	12.40	10.56	11.84	15.71	0.00	8.39	11.11	8.00	10.20
Auxiliary verbs	3.39	8.35	9.49	5.92	2.86	6.25	6.29	4.76	8.00	10.20
Common adverbs	7.63	4.25	4.49	4.25	7.14	0.00	4.90	3.97	12.00	6.80
Conjunctions	4.24	5.05	4.14	4.55	0.00	6.25	4.20	3.17	8.00	8.84
Negations	0.85	1.59	1.91	1.06	0.00	6.25	1.40	1.59	0.00	3.40

Grammar Other										
Regular verbs	10.17	17.49	21.59	15.48	12.86	18.75	19.58	15.08	12.00	18.37
Adjectives	12.71	6.96	7.15	6.83	4.29	6.25	2.80	8.73	6.00	3.40
Comparatives	0.00	1.43	3.06	2.28	1.43	0.00	0.70	0.00	0.00	0.68
Interrogatives	5.08	1.15	2.73	1.37	0.00	6.25	0.70	1.59	0.00	1.36
Numbers	9.32	1.79	3.04	2.12	5.71	0.00	4.20	3.97	2.00	10.88
Quantifiers	0.85	2.78	3.57	3.95	0.00	12.50	2.80	1.59	6.00	0.68
Affect Words	16.95	11.05	7.40	7.74	2.86	31.25	6.29	15.08	10.00	4.08
Positive emotion	16.95	7.55	6.38	5.16	1.43	25.00	3.50	3.97	8.00	1.36
Negative emotion	0.00	3.50	0.97	2.58	1.43	6.25	2.80	11.11	2.00	2.72
Anxiety	0.00	0.16	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anger	0.00	2.70	0.51	2.28	1.43	6.25	1.40	10.32	2.00	2.04
Sadness	0.00	0.48	0.23	0.00	0.00	0.00	1.40	0.79	0.00	0.00
Social Words	13.56	13.99	17.78	17.75	12.86	18.75	13.29	10.32	20.00	5.44
Family	0.00	0.44	1.15	1.67	0.00	6.25	0.70	1.59	0.00	0.00
Friends	3.39	0.40	0.33	0.30	1.43	0.00	1.40	1.59	0.00	0.00
Female referents	0.00	6.80	3.89	8.19	5.71	0.00	3.50	0.00	0.00	2.72
Male referents	4.24	0.40	0.48	0.00	1.43	0.00	2.80	0.00	14.00	0.00
Cognitive Processes	11.02	9.78	9.76	9.56	7.14	12.50	10.49	7.14	2.00	6.80
Insight	0.00	0.87	0.96	1.67	0.00	0.00	2.10	0.00	0.00	0.68
Cause	1.69	0.87	0.70	0.91	1.43	0.00	0.00	2.38	0.00	0.00
Discrepancies	3.39	1.87	2.66	2.28	0.00	0.00	2.80	0.79	0.00	0.00
Tentativeness	5.08	3.58	3.35	3.19	0.00	6.25	2.80	0.79	2.00	0.68
Certainty	0.00	1.19	0.61	1.21	5.71	0.00	0.70	0.00	0.00	1.36
Differentiation	3.39	2.86	2.62	0.91	0.00	6.25	3.50	3.17	2.00	4.08
Perpetual Processes	6.78	5.01	7.17	5.61	5.71	0.00	2.10	3.97	4.00	6.12
Seeing	1.69	3.54	6.15	3.79	4.29	0.00	0.70	0.79	2.00	5.44
Hearing	0.85	0.24	0.35	0.00	1.43	0.00	0.00	0.00	0.00	0.68
Feeling	4.24	1.27	0.66	0.46	0.00	0.00	0.70	3.17	2.00	0.00
Biological Processes	3.39	7.39	5.33	11.08	8.57	6.25	9.79	15.08	16.00	4.76
Body	3.39	3.06	2.95	6.22	5.71	0.00	2.10	3.97	6.00	2.04
Health/illness	0.00	0.32	0.27	0.00	0.00	0.00	0.00	0.79	0.00	0.00
Sexuality	2.54	3.38	2.98	6.53	5.71	6.25	9.09	11.11	6.00	4.08

Ingesting	0.00	0.04	0.08	0.30	0.00	0.00	0.00	0.00	0.00	0.00
Core Drives and Needs	11.86	7.55	7.46	8.80	7.14	12.50	3.50	9.52	12.00	3.40
Affiliation	4.24	2.15	2.78	5.16	2.86	12.50	2.10	4.76	10.00	0.68
Achievement	0.85	0.56	1.33	0.15	0.00	0.00	0.70	0.00	0.00	0.00
Power	0.85	1.99	1.01	1.97	1.43	0.00	0.70	2.38	0.00	0.68
Reward focus	5.93	2.98	2.50	1.52	2.86	0.00	0.00	2.38	2.00	0.68
Risk/prevention focus	0.00	0.12	0.24	0.15	0.00	0.00	0.00	0.00	0.00	1.36
Time Orientation										
Past focus	3.39	5.29	2.86	2.58	10.00	6.25	5.59	0.79	2.00	7.48
Present focus	5.08	9.94	16.95	10.02	4.29	12.50	9.79	11.11	18.00	12.93
Future focus	1.69	0.76	1.48	0.91	0.00	0.00	2.80	0.79	0.00	1.36
Relativity	6.78	14.86	13.49	14.42	18.57	0.00	13.29	13.49	12.00	17.69
Motion	0.85	1.67	3.15	2.58	0.00	0.00	2.80	0.79	0.00	0.00
Space	2.54	8.03	4.79	5.77	12.86	0.00	6.29	11.90	10.00	8.16
Time	3.39	5.52	5.80	6.37	5.71	0.00	4.20	0.79	4.00	9.52
Personal Concerns										
Work	0.00	0.87	0.40	0.15	1.43	0.00	0.70	0.00	0.00	0.68
Leisure	2.54	1.19	0.78	0.91	1.43	0.00	0.00	0.79	0.00	0.00
Home	0.00	0.12	0.28	0.61	0.00	0.00	2.10	0.00	2.00	0.68
Money	0.85	0.28	0.25	0.30	1.43	0.00	0.00	0.79	0.00	0.68
Religion	0.00	0.40	0.02	0.00	0.00	0.00	0.70	0.00	0.00	0.68
Death	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00

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