

The Relationship Between Pornographic Media and the Peer Context with the Perpetration of
Sexual Cyber Dating Aggression Among Emerging Adults

by

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Abstract

Objectives: The objectives of my study were threefold. The first study objective was to examine the relationship between the consumption of pornographic media, including content non-specific (i.e., overall/general) pornography and different types of pornographic content (i.e., violent and degrading, non-violent but degrading, non-violent nor degrading), with the perpetration of sexual cyber dating aggression (CDA) among emerging adults. A second objective was to examine the relationship between peer factors and CDA perpetration, namely, peer-related risk and protective factors associated with CDA perpetration including peer perpetration of dating aggression, peer attitudes toward dating aggression, and friendship quality. Finally, the third objective was to explore whether emerging adults' attitudes toward dating aggression mediated the relationship between consumption of pornographic media and peer variables with self-reported CDA perpetration. These objectives were primarily examined within a theoretical framework provided by Social Cognitive Theory. **Method:** Participants were 149 emerging adult men and women aged 18 to 25 who reported currently being in a heterosexual dating relationship or having been in a dating relationship within the past year. Participants completed an anonymous online survey, including online measures of pornography consumption, perceived peer perpetration of dating aggression, perceived peer attitudes toward dating aggression, friendship quality, personal attitudes toward dating aggression, and sexual CDA perpetration. **Results:** Results highlighted consumption of violent/degrading pornography as a significant predictor of, and potential risk factor for, self-reported perpetration of sexual CDA, such that more frequent consumption was associated with an increased likelihood of perpetration. Findings also suggest that usage of violent/degrading pornographic content might be more detrimental and have a greater impact on CDA perpetration than consumption of pornographic content that is implicitly violent and

degrading and content that is neither violent nor degrading. Friendship quality was also identified as a significant predictor of, and potential protective factor for, CDA perpetration, wherein higher friendship quality (i.e., higher social support and lower negative interactions within friendships) was associated with a decreased likelihood of perpetration. This study further identified dating aggression-tolerant attitudes as an important mediator linking consumption of violent/degrading pornography and friendship quality with CDA perpetration. Significant bivariate correlations with CDA perpetration were also found for consumption of content non-specific (i.e., overall/general) pornography, consumption of content-specific pornography types (i.e., violent and degrading, non-violent but degrading, non-violent nor degrading), peer dating aggression perpetration, peer attitudes toward dating aggression, friendship quality, personal attitudes toward dating aggression, and gender. **Conclusion:** Overall, usage of violent/degrading pornography and friendship quality appear to play an important role in predicting self-reported sexual CDA perpetration, and these relations are mediated by attitudes tolerant of dating aggression. The type of pornographic content may be an important factor to take into consideration when examining the relationship between pornography usage and perpetration. My study provided new insights into the unexplored relationship between peer factors and pornographic media usage with CDA perpetration among emerging adults. Findings add to the growing body of literature examining correlates and predictors or risk/protective factors of CDA perpetration. Future research could extend current findings to longitudinal designs and use larger samples to evaluate more complex models that afford a deeper understanding of pornography consumption and peer-related risk/protective factors for CDA perpetration and the mechanisms that help explain these relations. Findings have practical implications for the development of more targeted dating aggression intervention and prevention programs for emerging adults.

Preface

This thesis is an original work by Jessica Sciaraffa. No part of this thesis has been previously published.

The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “The Relationship Between the Peer Context and Pornographic Media with Cyber Dating Aggression Among Emerging Adults”, No. Pro00075432, September 14, 2017.

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Table of Contents

Abstract.....	ii
Preface.....	iv
Acknowledgments.....	v
List of Tables	xii
List of Figures	xiii
Chapter 1: Introduction.....	1
Overview.....	1
Literature Review.....	3
Cyber Dating Aggression (CDA).....	3
Definitions.....	3
Technology, Social Media, and Dating Relationships.....	5
Prevalence Rates	6
Gender Differences in Prevalence Rates.....	8
Brief Review of Risk and Protective Factors of CDA Perpetration	9
Pornography	11
Definition of Pornography	11
Violent Media and Dating Aggression	12
Prevalence and Frequency of Pornography Consumption.....	13
Pornography Consumption, Sexual Aggression, and Dating Violence	14
Other Factors.....	17
Type of Pornography	18
Peers	21

Definitions and Peer Variables of Interest	21
Importance of Peer Relationships and Friendships.....	22
Peer Dating Violence	23
Peer Attitudes Toward Dating Aggression	25
Friendship Quality	26
The Mediating Role of Attitudes	28
Dating Aggression-Tolerant Attitudes and Dating Violence Perpetration	29
Aggressive Media, Pornography, and Attitudes	29
Peer Factors and Attitudes	31
Theoretical Frameworks	32
Social Cognitive Theory	32
Ecological Systems Theory.....	34
Gaps in the Research Literature and Study Contributions.....	35
Current Study	37
Study Objectives, Questions, and Hypotheses.....	37
Research Question 1A.....	38
Research Question 1B.....	38
Research Question 1C.....	39
Research Question 2A.....	39
Research Question 2B.....	40
Research Question 3A.....	40
Research Question 3B.....	41
Research Question 3C.....	41

Chapter 2: Method	41
Design and Procedure	41
Recruitment.....	42
Recruitment Method 1	43
Recruitment Method 2	43
Survey Completion	44
Participants	45
Survey Measures.....	47
Participant Characteristics	47
Dating Relationship Characteristics.....	47
Cyber Dating Aggression (Appendix F).....	48
Pornography Consumption (Appendix G).....	49
Overall/General Pornography Consumption.....	49
Content-Specific Pornography Consumption	50
Attitudes Toward Dating Aggression (Appendix H).....	52
Peer Factors.....	54
Perceived Perpetration of Dating Aggression by Peers (Appendix I)	54
Perceived Peer Attitudes Toward Dating Aggression (Appendix J)	55
Friendship Quality (Appendix K).....	56
Chapter 3: Analyses and Results.....	57
Data Management and Statistical Assumptions	57
Examination of Data	57
Missing Data	58

Outliers.....58

Normality59

Linearity.....60

Multicollinearity60

Independence of Observations/Errors.....60

Descriptive Statistics.....61

 Cyber Dating Aggression.....61

 Pornography Consumption62

 Peer Variables.....63

 Attitudes Toward Dating Aggression64

Bivariate Correlations64

Analyses.....66

 Research Question 1A.....69

 Research Question 1B.....69

 Research Question 1C.....70

 Research Question 2A.....71

 Research Question 2B.....72

Mediation Analyses73

 Violent/Degrading Pornography and CDA Perpetration (Research Question 3A)74

 Friendship Quality and CDA Perpetration (Research Question 3C)75

Chapter 4: Discussion76

 Study Objectives76

 Review of Main Results.....77

Gender and Sexual CDA.....	77
Pornography and Sexual CDA.....	78
Peer Factors and Sexual CDA.....	85
Mediating Role of Attitudes for Friendship Quality and Violent/Degrading Pornography	88
Study Limitations and Recommendations for Future Research	90
Practical Implications.....	93
Conclusion	94
References.....	96
Appendices.....	135
Appendix A: Notification Email of Study Activation	135
Appendix B: Reminder Email for Study Completion.....	136
Appendix C: Study Information and Consent Form.....	137
Appendix D: Debriefing Form.....	141
Appendix E: Participant Characteristics Questionnaire.....	143
Appendix F: Cyber Dating Aggression Perpetration	146
Appendix G: Pornography Consumption.....	147
Appendix H: The Attitudes Toward Dating Violence Scales – Participants’ Attitudes Toward Dating Aggression	149
Appendix I: Perceived Peer Dating Aggression Perpetration.....	151
Appendix J: The Attitudes Toward Dating Violence Scales – Perceived Peer Attitudes Toward Dating Aggression.....	152

Appendix K: Network of Relationships Inventory, Relationship Qualities Version –
Friendship Quality154

List of Tables

Table 1: Participant Characteristics	124
Table 2: Descriptive Statistics for Key Study Variables	126
Table 3: Correlations Among Key Study Variables	127
Table 4: Means and Standard Deviations for Continuous Independent Variables, Separately for Perpetrators and Non-Perpetrators	128
Table 5: Multiple Logistic Regression Model Predicting Likelihood of Perpetration	129
Table 6: Summary of Results of Mediation Analyses for Violent/Degrading Pornography Use and Friendship Quality.....	130

List of Figures

Figure 1: Hypothesized Relationships Between Pornography Consumption and Peer Factors with Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression	131
Figure 2: Baron and Kenny’s (1986) Mediation Model	132
Figure 3: Unstandardized Regression Coefficients and Standard Errors for the Relationship Between Violent/Degrading Pornography Consumption and Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression.....	133
Figure 4: Unstandardized Regression Coefficients and Standard Errors for the Relationship Between Friendship Quality Indicators and Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression	134

Chapter 1: Introduction

Overview

Emerging adulthood is an important developmental period for establishing healthy romantic and sexual relationships. Emerging adulthood has been defined as a distinct developmental period between 18 and 25 years of age that is characterized by increased independence and exploration of life possibilities, identity, and roles, including exploration in love, work, and worldviews (Arnett, 2000). Research supports the notion that romantic development unfolds in a predictable sequence of stages across early, middle, and late adolescence, reaching its mature form in the emerging adult years (Connolly et al., 2013; Connolly et al., 2014). Over the course of adolescence and into emerging adulthood, dating frequency tends to increase with age (Crockett & Randall, 2006) and becomes less casual and recreational, more exclusive, dyadic, of longer duration, and more emotionally and sexually intimate (Meier & Allen, 2009). The vast majority of emerging adults report past dating experience, with 55% reporting that they had a current dating partner (Borrajo et al., 2015a).

Unfortunately, for many emerging adults, these romantic relationships are marked by violence, aggression, and abuse. Toplu-Demirtaş and Fincham (2020) found high rates of dating violence perpetration among a sample of 812 college students, including physical (43% women, 35% men), sexual (25% women, 41.8% men), and psychological (80% of women, 75.5% men) dating violence. In an international study with a representative sample of 8,666 college students in 16 countries, Straus (2004) found that 29% of university students worldwide ($M_{\text{age}} = 22$ years) reported using physical aggression toward a dating partner in the past year. In another representative study involving nearly 16,000 college students in 21 countries, 20% and 30% of students reported sexual and physical dating violence perpetration, respectively, in the past year (Chan et al., 2008). Torres et al. (2012) found that, among a college sample of 325 undergraduate students, 98% of men and women reported perpetrating

psychologically aggressive behaviours toward their dating partners. Meanwhile, results from the most recent National Intimate Partner and Sexual Violence Survey, a nationally representative survey of intimate partner violence among Americans aged 18 or older, revealed that over 1 in 3 women (36.4%) and about 1 in 3 men (33.6%) experienced contact sexual violence, physical violence, and/or stalking by an intimate partner during their lifetime (Smith, Zhang, et al., 2018). Patterns of dating aggression often emerge during adolescence, increase over time, and persist into emerging adulthood (e.g., Exner-Cortens et al., 2013). Thus, emerging adulthood represents a critical period to study the perpetration of dating aggression and violence.

Dating violence has been defined as a type of intimate partner violence that involves actual or threatened physical, sexual, or psychological aggression and abuse of a current or former dating partner, including stalking, and can take place in person or electronically (Centres for Disease Control and Prevention, 2020). Dating violence among young people is an important focus of investigation not only because of its alarmingly high rates (e.g., Centres for Disease Control and Prevention, 2020; Chan et al., 2008; Straus, 2004) and serious mental health consequences (e.g., anxiety, depression, post-traumatic stress disorder, substance use; Lu et al., 2018), but because it occurs at a time when young people are learning patterns of interactions that may extend later into adulthood (e.g., Exner-Cortens et al., 2013).

In an effort to prevent dating violence and to better understand its development, a burgeoning body of research has examined risk and protective factors for victimization and perpetration. *Risk factors* are defined as characteristics that are associated with a higher likelihood of negative or problem outcomes, while *protective factors* are defined as characteristics that are associated with a lower likelihood of negative or problem outcomes (Caridade & Braga, 2020). To date, however, much of the research examining factors associated with dating violence among young people has focused on proximal variables (e.g., relationship conflict/stress, individual attitudes/beliefs about aggression), and

limited research has been conducted to examine the influence of background factors (Friedlander et al., 2013; Spencer et al., 2019).

The purpose of my study is to add to the extant literature in the relatively young field of cyber dating aggression, a comparatively new phenomenon, by exploring background variables that increase the risk of and protect against its perpetration. Background variables of interest include consumption of pornographic media in addition to various peer factors, namely peer perpetration of dating aggression, peer attitudes toward dating aggression, and friendship quality. Efforts were also made to elucidate the mechanism by which these background variables contribute to perpetration by exploring the mediating role of dating violence-tolerant attitudes in the relationship between pornography consumption and peer variables with cyber dating aggression. The ultimate value of research aimed at identifying predictors of and risk/protective factors for dating aggression is that results can be used to develop more targeted intervention and prevention strategies.

Literature Review

Cyber Dating Aggression

Recent advancements in technology, including the growing reach of the Internet and the rapid spread of mobile information and communication technologies (e.g., social networking, texting on a cellular phone), have created new ways for people to relate to one another socially, have changed and influenced how youth and emerging adults interact and communicate with one another in their dating relationships, and have created new tools and opportunities for those involved in dating violence to harass, control, and abuse their partners (Burke et al., 2011).

Definitions. Conceptualizations, definitions, and measurement of cyber dating aggression and abuse differ widely in the literature (Gamez-Guadix et al., 2018). In the last several years, a vast number of constructs or terms have emerged and have been used to define victimization and perpetration of

violence through digital tools in dating relationships (e.g., digital dating abuse, electronic dating violence, cyber based dating aggression; Caridade et al., 2019). A wide range of behaviours have also been used in the literature to capture these aggressive and abusive experiences (e.g., daily control and monitoring/surveillance of the dating partner, sending/posting insulting or humiliating comments/photos/videos to/of the dating partner, sending messages containing threats, spreading rumours about one's partner online, non-consensual/coercive sexting; Caridade et al., 2019).

For the purpose of my study, the term *cyber dating aggression*—from hereon referred to as CDA—will be used to describe the use of information and communication technology and new media to harass, pressure, threaten, intimidate, control, monitor, and inflict harm on a current or former dating partner. Previous research has used similar terminology and definitions (e.g., Borrajo et al., 2015a; Caridade & Braga, 2020; Caridade et al., 2019; Sánchez et al., 2015; Zweig et al., 2014). The term has three elements: *cyber*, which in my study's conceptualization, as in others (e.g., Bennett et al., 2011; Caridade et al., 2019; Reed et al., 2016; Zweig et al., 2013), is inclusive and comprehensive, and involves various digital/electronic information and communication technologies and devices, including cell phones/texting, computers, and Internet communication via social networking sites (e.g., Facebook, Instagram, Twitter, Snapchat), e-mail, instant messaging (e.g., Google Messenger), and chat rooms, rather than face-to-face interaction; *dating* which refers to current or former emerging adult romantic relationships; and *aggression* defined as behaviour that controls, pressures, harasses, threatens, intimidates, or otherwise harms a dating partner. The use of the term *aggression* rather than *abuse* is warranted in light of researchers suggesting that only a minority of college students experience a repeated, systemic pattern of severe and abusive digital dating behaviours, while the majority of students are more likely to experience more minor, isolated/low frequency incidents of harmful dating behaviours that might be better characterized as digital dating aggression rather than abuse (Reed et al., 2016).

Moreover, in my study's conceptualization, CDA includes behaviours that are non-consensual and unwanted/undesirable and it is also inclusive of behaviours that are perpetrated in the context of play/joking or outside of the conscious or explicit intent to harm as these behaviours can still be harmful, non-consensual, and unwanted (Reed et al., 2016).

Meanwhile, Zweig et al. (2013) focused on the sexual nature of CDA and presented a classification that distinguishes *sexual* CDA (e.g., pressuring/threatening a dating partner to send a sexual/naked photo of him/herself) and *non-sexual* CDA (e.g., using a dating partner's social networking account without permission). Of particular interest in my study is sexual CDA, with research showing that males are twice as likely as females to report perpetrating, and that perpetrators are 17 times more likely than non-perpetrators to have also perpetrated sexual coercion (Zweig et al., 2013). Sexual CDA is conceptualized here as part of a continuum of sexual violence and aggression, albeit one facilitated by technology (Powell, 2010).

Technology, Social Media, and Dating Relationships. Technology and social media are prevalent in the daily social lives of young people. Ninety-five percent of U.S. teens aged 13 to 17 years report owning or having access to a smartphone, and 45% say they are online/use the Internet "almost constantly" (Anderson & Jiang, 2018). YouTube, Instagram, and Snapchat are the most popular online platforms among teens, with 85%, 72%, and 69% reporting that they use these platforms, respectively. Meanwhile, the following percentages of U.S. adults aged 18 to 49 report that they own or use each of the following technologies: cell phone (99%), smartphone (91%), 77% (desktop/laptop computer), tablet (58%), Internet (97%), and social media (82%; Hitlin, 2018). U.S. adults aged 18 to 24 stand out for embracing a variety of social media platforms and using them frequently: 90% use YouTube, 76% use Facebook, 75% use Instagram (with 76% visiting the platform daily), 73% use Snapchat (with 77% visiting the platform daily), and 44% use Twitter (Perrin & Anderson, 2019).

Digital media has become an important social relational context through which much of emerging adults' daily social interactions with dating partners occur. Young people use a wide variety of digital tools (e.g., text messages, emails, mobile phones, messaging through social networking sites, webcams) to develop and maintain dating relationships (Burke et al., 2011). Among a sample of college students 17 to 22 years of age, Reed et al. (2016) found that, when asked about their digital media communication with their dating partners, 72.3% of women and 63.8% of men reported sending or receiving text messages from their dating partners several times a day, while 33.5% of women and 50% of men reported communicating with their dating partner through social network sites at least several times a week.

Although digital media can provide a means for easily developing and maintaining romantic relationships, it can also provide young people with new tools to harass and control their dating partner. For instance, the way digital media make previously private dating interactions public can be problematic; the nature of digital media communication exposes dating partners to the risk of public exposure, ridicule, and humiliation (Melander, 2010). Digital media can also provide young people with constant access to their dating partners and the opportunity to monitor their partner's every move and activity (Tokunaga, 2011).

Prevalence Rates. Prevalence rates of CDA have been found to vary markedly in the literature—but to be relatively high among adolescents and emerging adults—largely due to differences in how CDA was defined and measured, sample characteristics (e.g., age, sample size), and differences in research design/methodology (Borrajo et al., 2015a; Brown & Hegarty, 2018; Caridade et al., 2019; Reed et al., 2016). In a recent systematic review of 44 studies on youth cyber dating abuse, victimization rates ranged from 5.8% to 92% and perpetration rates ranged from 8.1% to 93.7% (Caridade et al., 2019). A critical review of cyber dating abuse measures (Brown & Hegarty, 2018) similarly documented

perpetration rates ranging from 6% to 91% among adolescents and emerging adults. Caridade and Braga (2019) found that 66.9% of college students ($M_{age} = 28$ years) reported having perpetrated CDA through direct aggression (e.g., threats, insults) and control behaviours (e.g., online monitoring) in their lifetime, while 59.2% reported being a victim of these same behaviours. Among U.S. college students aged 17 to 22, 62.6% of students reported perpetrating at least one of the measured digital dating abuse behaviours in the past year (e.g., monitoring partner, threats, sharing sexual images without permission), while 68.8% reported victimization (Reed et al., 2016). Zapor et al. (2017) found similar rates among another sample of U.S. college students: 73% of males and 77% of females reported committing at least one act of cyber psychological aggression against their dating partner in the past year, while 74% of males and 72% of females reported victimization. Marganski and Melander (2018) also report a 73% victimization rate of cyber dating violence in the past 12 months among a U.S. sample of college students aged 18 to 25, while in another study, over 50% of students aged 18 to 30 at a university in Spain reported being a victim of some type of cyber dating abuse in the last six months (e.g., being sent threatening or insulting messages, had rumors/gossip spread about them; Borrajo et al., 2015a). Moreover, in a Canadian sample of undergraduate students aged 17 to 25, 14% of students reported experiencing five or more of the examined cyber dating abuse behaviours in the past year (e.g., threats, humiliation, harsh comments), with 77% of students reporting being a victim of controlling or monitoring/checking-up behaviours and 43% reporting being the target of insults (Hancock et al., 2017).

Meanwhile, Zweig et al. (2013) found that cyber dating abuse is also highly prevalent among U.S. middle and high school students (7th to 12th grade), with 26% reporting being a victim in the past year (11.2% sexual cyber dating abuse, 22.2% non-sexual cyber dating abuse) and 12% reporting having perpetrated abuse (2.7% sexual cyber dating abuse, 10.5% non-sexual cyber dating abuse). Smith, Cénat et al. (2018) similarly report high rates among Canadian high school students, with a combined

perpetration and victimization rate of 82.5% in the past year (33% perpetration, 35.6% victimization). Stonard et al. (2014) document perpetration rates of technology-assisted adolescent dating abuse ranging from 12% and 54% and victimization rates between 12% to 56%.

Gender Differences in Prevalence Rates. Researchers have found mixed results regarding gender differences in prevalence rates of CDA perpetration. Zweig et al. (2013) found that adolescent boys were twice as likely as girls to report having perpetrated sexual CDA in the past year (4% of boys compared to 2% of girls), while girls were twice as likely to report having experienced sexual CDA in the past year (14.8% of girls compared to 7.2% of boys). Smith-Darden et al. (2017) similarly found that adolescent boys, compared to girls, were twice as likely to perpetrate coercive sexting (e.g., pressuring a partner to send sexual photos/videos). Reed et al. (2017) also indicated that adolescent boys reported higher overall rates of digital sexual coercion perpetration (e.g., pressuring partner to sext or to have sex, distributing partner's sexual photo without permission), with 34% of boys compared to 16.9% of girls reporting perpetration. Among undergraduate college students, Reed et al. (2016) also found that men were more likely than women to report pressuring their dating partner to take or send a sexual photo/video (1.6% of women compared to 12.5% of men). Women have also been found to experience higher victimization rates (87.9% of women vs. 74.3% of men) of technology-facilitated sexual violence more generally (e.g., unwanted sexual comments/requests, sexually violent threats; Snaychuk & O'Neil, 2020). In a recent meta-analysis, however, researchers did not find that gender moderated perpetration rates relating to non-consensual sharing of sexts among emerging adults (Mori et al., 2020). Thus, although some inconsistent gender findings exist, the bulk of the literature supports boys' and men's higher perpetration rates of sexual CDA and technology-facilitated sexual violence.

Meanwhile, while some researchers suggest that a higher proportion of adolescent boys and emerging adult men perpetrate intrusive online behaviours (e.g., monitoring, controlling, and

surveillance of partner; Deans & Bhogal, 2019; bombarding partner with texts/emails following an argument; Sánchez et al., 2015), other researchers have found that more women than men (25% women vs. 6% men) engage in controlling behaviours online (e.g., monitoring partner's activities and behaviour by checking emails or password-protected electronic accounts; Burke et al., 2011). Still, other studies have not found significant gender differences in the prevalence of minor psychological CDA perpetration among emerging adults (e.g., swearing, insulting, "shouting" with capital letters; Leisring & Giumetti, 2014; Zapor et al., 2017). Reed et al. (2016) also found no gender differences in the frequency or number of overall CDA perpetration behaviours exhibited in the past year among male and female college students (e.g., threatening, insulting, monitoring, or spreading rumours about partner). These mixed gender results suggest the need for further research exploration and clarification.

Overall, the high prevalence rates of CDA documented among adolescents and emerging adults are not surprising given the high usage and importance of technology in the daily social lives of young people, as well as the easy accessibility to dating partners that is facilitated by technology. Despite the integral role that technology and social media play in the day-to-day experience of young people (e.g., Anderson & Jiang, 2018; Hitlin, 2018; Perrin & Anderson, 2019), and the high prevalence of CDA and abuse (e.g., Borrajo et al., 2015a; Brown & Hegarty, 2018; Caridade & Braga, 2019; Caridade et al., 2019; Zweig et al., 2013), there is a paucity of research in this area, including those correlates and risk and protective factors that are associated with its perpetration.

Brief Review of Risk and Protective Factors of CDA Perpetration. Caridade and Braga (2020) conducted a recent meta-analysis of risk and protective factors associated with the perpetration of CDA and abuse among a total sample of 12,760 adolescents and emerging adults across 16 studies, including quantitative/mixed methods and cross-sectional/longitudinal studies. Risk and protective factors were divided into the following categories: socio-demographic (individual and relational),

individual (behavioural, mental and physical health, adverse experiences, or psycho-social), relational (intimate relations, peer, or family), and community (school or neighbourhood).

Results from this meta-analysis indicated that socio-demographic factors, including both individual socio-demographic factors (e.g., sex, age, ethnicity, socio-economic status) and relational socio-demographic factors (e.g., relationship characteristics, living situation, parental education) were not significantly associated with CDA perpetration. This is inconsistent with results from previous primary studies (e.g., Deans & Bhogal, 2019; Zweig et al., 2013). Meanwhile, both individual and relational risk factors held significant associations with CDA perpetration. In terms of individual risk factors, adverse experiences (e.g., adverse childhood experiences, bullying victimization) and psychological or physical/mental health variables (e.g., physical health complaints, depression, anxiety, anger, hostility) revealed the highest weighted mean correlation coefficients, followed by behavioural factors (e.g., alcohol and/or drug use, delinquency, sexual experiences/sex risk behaviours, perpetration of offline dating violence/bullying/sexting, social media usage). Psycho-social variables (e.g., gender stereotypes, attitudes/norms about aggression/sexting, jealousy, destructive conflict resolution skills, coping strategies) sustained the smallest weighted mean correlation coefficients among the individual risk factors. In terms of relational risk factors, intimate relationship variables (e.g., offline violence perpetration and/or victimization) and peer variables (e.g., peer dating aggression perpetration, peer approving social norms of CDA, peer drug use) held significant associations with CDA perpetration of a small to moderate magnitude. Family relational risk factors were not significantly associated with perpetration. Notably, however, all weighted mean correlations of the relational risk factors were based on a small pool of studies. Community risk factors (e.g., bad school grades, low school socio-economic status) were also not significantly associated with perpetration. These non-significant findings for family

and community risk factors are inconsistent with what has been found in the past by primary data (e.g., Peskin et al., 2017; Smith-Darden et al., 2017; Van Ouytsel et al., 2020).

Meanwhile, Caridade and Braga (2020) also found that, although the weighted mean effect sizes for the relation between protective factors and CDA perpetration were mainly in the expected negative direction, as these factors would be related to a decrease in perpetration, none were statistically significant. Of note, however, these results were based, once again, on a small pool of studies. Individual protective factors (e.g., constructive conflict resolution skills, positive coping strategies, prosocial acts, mental health counselling), relational protective factors (e.g., parental closeness/communication, peer/family support, positive relations with partner), and community protective factors (e.g., school connectedness, daily school attendance, school socio-economic status, teacher support, neighbourhood safety) have been examined.

Consistent with past systemic reviews (e.g., Brown & Hegarty, 2018; Caridade et al., 2019; Gamez-Guadix et al., 2018), Caridade and Braga (2020) conclude that studies of CDA to date have focused on risk factors in detriment of protective factors, and on individual factors in detriment of peer, family, and community factors. Caridade et al. (2019) further purport that it is unknown if these variables are risk/protective factors or consequences of CDA since the vast majority of CDA studies have used cross-sectional designs.

Pornography

Limited research has examined usage of pornographic media as a correlate of or risk factor for the perpetration of aggression specifically and solely in the context of dating or intimate relationships among emerging adults.

Definition of Pornography. Following with previous studies and meta-analyses on pornography consumption and effects among adolescent and emerging adult populations (e.g., Ferguson & Hartley,

2020; Hald et al., 2010; Wright et al., 2016), I defined “pornography” as material featuring nudity and exposure to clear and explicit sexual acts (e.g., vaginal intercourse, anal intercourse, oral sex, masturbation, bondage, sadomasochism, rape, urine sex, animal sex, etc.), and at the same time, exposure to and/or description of the genitals/sexual organs, that is designed primarily to sexually arouse the consumer or enhance the consumer’s sexual feelings or thoughts. Pornography does not include materials such as underwear/lingerie advertisements (e.g., Victoria Secret) or materials containing men and women posing or acting naked, unless these images portray clear and explicit sexual acts (Hald, 2006; Hald & Malamuth, 2008). Exposure to pornography in connection with formal/official sexual education or random/unintentional exposure was also not included (Hald, 2006; Hald & Malamuth, 2008). Pornography consumption is defined as the viewing/use of pornography.

Violent Media and Dating Aggression. One background risk factor in the youth dating violence literature that has recently received attention is exposure to violent or aggressive mass media. Violence in the media is highly prevalent; Wilson (2008) indicates that an estimated 90% of movies include some depictions of violence, as do 68% of video games, 60% of television shows, and 15% of music videos. Despite findings that greater exposure to violent media via various media types (e.g., television shows, movies, video games, music) is associated with both short-term and long-term increases in aggressive thoughts/attitudes, aggressive emotions, and aggressive behaviours in young people in general (Anderson et al., 2003; Huesmann et al., 2003; Krahe et al., 2012; Martins & Weaver, 2019; Shao & Wang, 2019; Teng et al., 2020), little research has examined the role of aggressive media consumption as a background risk factor for dating aggression.

Manganello (2008) purports that mass media images that portray aggressive behaviour towards others in ways that young people can realistically identify can increase the risk for aggression in their own dating relationships. According to Manganello, this occurs because the media images serve as

models for romantic behaviour and increase individuals' beliefs that violence and aggression is an acceptable way to resolve conflict.

Two longitudinal studies provide initial support regarding the relationship between adolescents' consumption of aggressive media and their increased likelihood of experiencing and perpetrating physical dating violence (Connolly et al., 2010; Friedlander et al., 2013). In a more recent study, McAuslan et al. (2018) examined the role of the media (i.e., media identification, media influence on aggressive feelings/behaviours, and preference for aggressive media) on physical, verbal, and sexual dating violence perpetration and victimization among emerging adults. Results showed that higher levels of preference for aggressive media and the belief that the media influences one's aggressive feelings and behaviours were directly related to holding more supportive attitudes regarding dating violence, and indirectly related to more experiences with dating violence, among both males and females. Based on findings that support a relationship between the use of aggressive media in general and dating aggression, it is conceivable that this relationship carries over to pornographic media, wherein depictions and themes of aggression, degradation, and objectification are prevalent (Carrotte et al., 2020).

Prevalence and Frequency of Pornography Consumption. To date, little research has examined the relation between usage of pornography as an aggressive media type and dating aggression during emerging adulthood. An estimated 20 million individuals in Canada and the United States visit adult pornography websites per year (Thornburg & Lin, 2002). According to the Pornhub pornography website (Pornhub, 2019), Canada was the country with the fourth highest traffic to the site in 2019, with Canadians spending an average of 10 minutes and 23 seconds on the site per visit.

By age 17, an overwhelming majority of boys (93%) and girls (62%) have been exposed to pornography (Sabina et al., 2008). Reinforcing the importance of studying the effects of pornography

among emerging adults is the finding that pornography use tends to be highest during emerging adulthood compared to any other developmental period (Buzzell, 2005). Indeed, Carroll et al. (2008) termed emerging adults today as “Generation XXX” and found that, in a large normative/non-clinical sample of 813 university students aged 18 to 26 recruited from six college sites across the United States, 86.1% of men and 31% of women reported using pornography within the preceding 12 months, with 16.8% of men and 20.7% of women watching pornography once a month or less, 21% of men and 7.1% of women viewing pornography two to three days a month, 27.1% of men and 2.2% of women using pornography one or two days a week, 16.1% of men and 0.8% of women using pornography three to five days a week, and 5.2% of men and 0.2% of women watching pornography every day or almost every day. Among a sample of 1,883 U.S. college students, Ezzell et al. (2020) found that 87.8% of men and 41.4% of women reported using pornography in the past year, with the following breakdown of percentages of men and women using pornography at various frequencies: a few times per month (17.3% men, 11.1% women), 1 to 2 days per week (26.6% men, 5.8% women), 3 to 5 days per week (18.6% men, 2.6% women), and daily or almost daily (10.5% men, 0.6% women).

The high prevalence and frequency of pornography consumption suggests that pornography plays an important role in the sexual education of young people and serves as an important source of information about sexual and romantic relationships. Pornography, however, portrays inaccurate and unrealistic expectations about sexual encounters, and can skew or distort young people’s image of sexuality and their attitudes, beliefs, and understanding of what a normal and healthy romantic and sexual relationship is (Haggstrom-Nordin et al., 2006; Lofgren-Martenson & Mansson, 2010; Owens et al., 2012; Quadara et al., 2017; Tsitsika et al., 2009).

Pornography Consumption, Sexual Aggression, and Dating Violence. Pornography consumption has been linked to a range of negative outcomes among adolescents and emerging adults,

including sexual attitudes (e.g., more permissive sexual norms/attitudes, less progressive gender role attitudes; Brown & L'Engle, 2009; Leonhardt & Willoughby, 2018; Peter & Valkenburg, 2016), aggressive attitudes/beliefs (e.g., attitudes supporting violence, negative views of women, sexist attitudes; Hald et al., 2013; Malamuth et al., 2012), sexual risk behaviours (e.g., unsafe sex practices, higher number of sexual partners; Harkness et al., 2015), "sexting" behaviours (i.e., exchange of sexually explicit messages/pictures via the use of technology/new media; Stanley et al., 2018; Van Ouytsel et al., 2014), non-consensual forwarding of sexts (e.g., van Oosten & Vandenbosch, 2020) and technology-based sexual coercion (Thompson & Morrison, 2013), perpetration of non-sexual aggression (e.g., physical or psychological aggression; Allen, D'Alessio, & Brezgel, 1995), and the perpetration of sexual harassment and physical/verbal sexual aggression (e.g., Bonino et al., 2006; Brown & L'Engle, 2009; Ferguson & Hartley, 2020; Owens et al., 2012; Peter & Valkenburg, 2016; Wright et al., 2016).

To date, dozens of studies have examined the relationship between pornography consumption and aggressive behaviour. Although the topic of whether or not pornography consumption leads to more aggressive behaviour is contentious and results from these studies are mixed, the majority of the relevant literature has found a positive relationship between pornography use and aggression. Ferguson and Hartley (2020) note that although results from these studies are mixed and inconclusive, studies that find a relationship report small but statistically significant effects of pornography on aggressive behaviour. General population studies that have been meta-analyzed involve a) the effects of experimental exposure to pornography on non-sexual aggression (e.g., intentional physical or psychological aggression via administration of electric shocks) and attitudes supportive of violence, and b) naturalistic (i.e., self-selected) pornography consumption and self-reported sexual aggression and attitudes supportive of violence (Wright et al., 2016). Meta-analyses of experimental studies have found that pornography affects aggressive attitudes and behaviours (e.g., Allen, D'Alessio, & Brezgel, 1995; Allen, Emmers, et

al., 1995). In their meta-analytic review of 30 experimental studies examining the effect of pornography exposure on aggressive behaviour under laboratory conditions, Allen, D'Alessio, and Brezgel (1995) found that exposure to both violent and non-violent pornographic stimuli increased subsequent non-sexual aggressive behaviour (i.e., intentionally injuring another person physically or psychologically) for both men and women. In an experimental study of male college students, Yang and Youn (2012) also found that participants who viewed violent and non-violent pornographic videos, compared to a control group who viewed non-sexual material, showed more subsequent aggressive behaviour (i.e., chose to throw darts at a greater number of human face targets during a dart-throwing decision task).

Meta-analyses of non-experimental studies also support a relationship between pornography usage and sexual aggression. Hald et al. (2010) meta-analyzed nine survey studies and found that naturalistic pornography consumption was associated with higher levels of attitudes accepting of interpersonal violence, rape myth acceptance, and sexual harassment proclivities. In addition, a 2016 meta-analysis of naturalistic pornography consumption and sexual aggression in general population studies (22 studies from seven different countries) concluded that increased pornography consumption, compared to no or less frequent pornography consumption, was associated with an increased likelihood of both verbal sexual aggression and physical sexual aggression in the United States and internationally, among adult and adolescent males and females, and in cross-sectional and longitudinal studies (Wright et al., 2016). Verbal sexual aggression was defined as verbally coercive communication to obtain sex and sexual harassment (e.g., asking someone to do something sexual online that they did not want to, pressuring someone to have sex, threatening to end a relationship), while physical sexual aggression was defined as the use or threat of physical force to obtain sex. Moreover, a more recent meta-analysis of a total of 59 studies, including experimental, correlational and population studies, of the pornography/sexual aggression link among adolescents and adults dating back from the 1970s to the

current time revealed a positive correlation between consumption of violent pornography and sexual aggression (Ferguson & Hartley, 2020).

Some studies have examined the relationship between pornography usage and offline dating violence perpetration. Findings from a systemic review of 43 studies by Rodenhizer and Edwards (2019) suggest that emerging adults' exposure to sexually explicit media and sexually violent media was positively associated with their actual and anticipated sexual and dating violence perpetration. Jongasma (2019) similarly found a positive correlation between frequency of pornography use and the perpetration of offline (i.e., physical, psychological, and sexual) intimate partner violence among a Canadian sample of male and female university students ($M_{age} = 21.71$ years). Increased frequency of pornography consumption predicted an increased risk of perpetrating intimate partner violence. Conversely, among a large longitudinal U.S. sample of 892 university students, Hatch et al. (2020) found that pornography use did not prospectively predict the perpetration of physical intimate partner violence three months later. Thus, in summary, despite some mixed findings, much of the literature supports a positive relationship between the consumption of pornography with offline sexual and dating aggression. These findings, along with research support for the relation among pornography usage, sexting behaviours, and technology-based sexual coercion, formed the basis for exploring the relationship between pornography consumption and sexual CDA in my study.

Other Factors. Importantly, researchers argue that sexually aggressive behaviour, as with all behaviour, is caused by multiple interacting factors or a confluence of factors (Wright et al., 2016), and that a substantial proportion of pornography consumers are not sexually aggressive. In line with the Confluence Model of sexual aggression (Malamuth et al., 2000), researchers suggest that pornography exposure may only or more strongly be related to, and increase the risk of, sexual aggression perpetration and tolerant attitudes toward sexual aggression among individuals who also possess a

combination of and are high in predisposing risk factors (e.g., hostile masculinity, impersonal sex orientation, association with sexually aggressive peers, impulsive and antisocial tendencies, lack of empathy, alcohol/drug use, childhood history of abuse; Kohut & Fisher, 2020; Malamuth & Huppert, 2005; Swartout, 2013; Ybarra & Mitchell, 2005; Yeater et al., 2012). Researchers point to the importance of individual differences and characteristics that interact with pornography exposure to contribute to differing levels of risk for sexually aggressive behaviour, and both naturalistic and experimental research indicate that associations between pornography consumption and sexually aggressive behaviour are likely higher when certain attributes are present (i.e., disagreeable personality, hostile approach to gender relations, impersonal orientation toward sex; Hald & Malamuth, 2015; Hald et al., 2013; Kohut & Fisher, 2020; Malamuth et al., 2012; Wright et al., 2016). Thus, although researchers have found a relationship between pornography usage and sexual aggression, it is important to note that this relationship is likely complex and that numerous factors likely moderate this relationship.

Type of Pornography. Whether the type of pornographic content is differentially associated with the perpetration of sexual aggression has been the subject of some investigation. Most measures of pornography consumption, however, do not ask about exposure to various types of content (Wright et al., 2016). Pornography containing themes of aggression, degradation/objectification, and domination has been found to be highly prevalent (Carrotte et al., 2020). Although there is support for a positive relationship between content non-specific measures of pornography use and sexual aggression (e.g., Bonino et al., 2006; Brown & L'Engle, 2009; Peter & Valkenburg, 2016), researchers suggest that emerging adults' consumption of violent pornographic content, compared to less violent or non-violent pornographic content, is more strongly associated with an increased risk of perpetrating sexual aggression (e.g., Allen, D'Alessio, & Brezgel, 1995; Boeringer, 1994; Ferguson & Hartley, 2020).

Although mutually consensual, non-violent pornography may have neither positive nor negative effects, violent pornography that depicts women in a degrading, humiliating, or demeaning manner may have different, more negative effects (Owens et al., 2012). Researchers further argue that not explicitly violent, but nevertheless dehumanizing, objectifying, and degrading pornographic depictions may also affect aggressive attitudes and disinhibit aggressive behaviours (Wright & Tokunaga, 2016).

Investigation into this type of pornographic content, however, has been limited (Kingston et al., 2009; Wright et al., 2016). A paucity of studies differentiate between explicitly violent pornographic content and content that is not explicitly violent but nonetheless contains implicit themes of aggression and degradation that may still have an impact on aggression. In addition, few researchers provide clear definitions regarding what constitutes non-violent pornographic content, so that these measures can presumably include content that is not explicitly violent but nonetheless degrading, content that is neither violent nor degrading, or both; few studies differentiate between non-violent but degrading content and non-violent nor degrading content.

In a recent meta-analysis of 59 correlational, experimental, and population studies examining the association between pornography use and sexual aggression, Ferguson and Hartley (2020) found a positive correlation between consumption of violent pornography and sexual aggression, although evidence did not suggest that usage of non-violent pornography was associated with sexual aggression. In another meta-analysis of general population studies, Wright et al. (2016) revealed that although use of both violent and non-violent pornography were significantly and positively associated with sexual aggression, violent pornography use was more strongly associated with sexual aggression (i.e., had a higher correlation with sexual aggression on average) than use of non-violent pornography, although the difference between the correlations was not significant. Wright et al. (2016) conclude that more violent, degrading, and objectifying pornographic content may increase the risk of sexual aggression relative to

less violent or degrading content, although, given that most pornography contains themes of violence and degradation, the pornography consumed by the average individual contains enough of these elements that it is associated with an elevated likelihood of sexual aggression. Meanwhile, a 2010 meta-analysis of non-experimental studies also found that men's use of violent pornography, compared to non-violent pornography, correlated significantly higher with attitudes supporting violence against women and sexually aggressive behaviours (Hald et al., 2010). In another study, adolescents who intentionally viewed violent pornography were almost six times more likely to report sexually aggressive behaviour than those who had not, whereas exposure to non-violent pornography was not statistically significantly related (Ybarra et al., 2011). In addition, using survey data from a sample of 1,694 Grade 10 high school students, Rostad et al. (2019) found that violent pornography exposure was positively correlated with physical, sexual, and threatening dating violence, with boys exposed to violent pornography being three times more likely to report sexual dating violence perpetration compared to their non-exposed counterparts, while girls exposed to violent pornography were over one and a half times more likely to perpetrate physical and threatening dating violence.

Meanwhile, in their meta-analytic review of experimental studies investigating the effect of laboratory pornography exposure on subsequent aggressive behaviour, Allen, D'Alessio, and Brezgel (1995) concluded that exposure to pornographic media depictions of violent sexual activity generated higher levels of non-sexual aggression than exposure to non-violent pornography. In their experimental study, Yang and Youn (2012) also found that participants who had been randomly assigned to the group exposed to violent pornography showed more aggressive behaviour (i.e., chose to throw darts at human face pictures as targets more frequently) compared to participants exposed to non-violent pornography.

Thus, it is clear that the type of pornographic content is important to consider when examining the relation between pornography usage and aggression; a positive relationship might only exist or be

stronger for consumption of violent and/or degrading pornography and might not exist or be weaker for usage of pornography that does not contain aggressive nor degrading content. As such, these findings inform my research question examining the differential relationship between different pornographic content varying in themes of aggression and degradation with the perpetration of CDA. Moreover, given the above-described limitations in measurement of different pornographic content, I provide clear definitions of violent and non-violent content types, and I examine three categories of content, including the infrequently investigated non-violent but degrading pornography. I differentiate non-violent but degrading content from both violent and non-violent nor degrading content types. Overall, the current literature supporting a relationship between content non-specific and content-specific measures of pornography usage with sexual and dating aggression, along with research support for a differential relationship with aggression based on pornography content type, provides the basis for my research questions related to pornography consumption.

Peers

In addition to the usage of pornography, few studies have investigated the relationship between peer factors and the perpetration of dating aggression among emerging adults.

Definitions and Peer Variables of Interest. For the purpose of my study, a *peer* is defined as a person who is equal to another with respect to certain characteristics, such as age, skills, educational level, background, and social status (Beckmann et al., 2019). The term *peer context*, as has been used in previous research (e.g., Foshee et al., 2013), is used to collectively describe those peer-related background variables, conditions, or circumstances of interest that are present in an individual's environment and that are associated with CDA perpetration. In particular, three aspects, domains, or characteristics of the peer context were examined in my study, including peers' behaviours (i.e., peer perpetration of dating aggression), peers' beliefs/attitudes (i.e., peer attitudes toward dating aggression),

and friendship quality. In my study, *friendship quality* is conceptualized as comprising various positive or supportive relationship features/characteristics (i.e., companionship, disclosure, emotional support, approval, satisfaction) and negative or discordant relationship features (i.e., conflict, criticism, pressure, exclusion, dominance). The selection of these three different aspects of the peer context is intended to provide a more comprehensive assessment of how the peer context is associated with CDA perpetration.

Importance of Peer Relationships and Friendships. Peer relationships and friendships play an important role in the lives of emerging adults. Emerging adults consider their friends to be important persons within their social networks (Fraley & Davis, 1997), and they report spending considerable amounts of time with them (Collins & Laursen, 2004). Friendships are vital to emerging adults' adjustment due to the rapid changes that accompany this period (e.g., leaving their families of origin, delaying adult roles of marriage and parenthood; Barry et al., 2016). Indeed, friends are often central to emerging adults' lives and can afford immeasurable guidance and support during challenging times and as emerging adults tackle developmental tasks, such as identity.

Peer relationships and friendships play an important socializing role during emerging adulthood and in supporting emerging adults' development (e.g., social competence; Alegre & Benson, 2019; identity exploration; Barry et al., 2016; feelings of self-worth; Clifford & Nelson, 2019; pro-social behaviours; McGinley & Evans, 2020). Friendships during emerging adulthood tend to satisfy social integration needs (i.e., companionship), feelings of worth, as well as intimacy and emotional support needs (Clifford & Nelson, 2019). Researchers also document the contribution of peers to adolescents' and emerging adults' romantic relationships (e.g., relation between peer relationship qualities during adolescence and romantic satisfaction in adulthood; Allen et al., 2019; peer rejection as a precursor to romantic relationship dysfunction; Schacter et al., 2019). Positive peer relationships can also contribute to emerging adults' mental health and well-being (e.g., increased happiness; Demir et al., 2018; reduced

internalizing symptoms, such as depression, anxiety, and stress; McGinley & Evans, 2020). Researchers further suggest that peers play an important role in the development of many health risk and deviant behaviours among young people (e.g., delinquency, substance use; Boman, 2019; shoplifting, fighting, property crime; Gallupe et al., 2018), including in the development of aggression and violence (e.g., Faris & Ennett, 2012; Gallupe et al., 2018; Thompson et al., 2019).

Despite the aforementioned findings, few studies have examined the relationship between peer factors and the perpetration of CDA, including among emerging adults (Caridade & Braga, 2020). The few studies to date investigating the relation between peer variables and CDA have mostly focused on adolescent populations. A review of the research examining the relation between each of the three peer factors of interest with offline and cyber dating aggression follows.

Peer Dating Violence. The literature provides budding support for the relation between peer perpetration of dating violence and youths' use of cyber aggression in their own dating relationships. For example, in a recent cross-sectional study examining the correlates of the perpetration of cyber dating abuse among early adolescents, Peskin et al. (2017) found that adolescents' perceptions of their peers' use of physical and cyber dating violence was associated with a higher odds of perpetrating cyber dating abuse in their own relationships. Similarly, among a U.S. sample of 4,163 ninth graders across 43 schools and 11 states, peer aggression was significantly and cross-sectionally associated with adolescents' own perpetration of cyber dating abuse (Cutbush et al., 2010).

Research support for the relationship between peer dating violence perpetration and youths' perpetration of offline dating violence has also been documented in cross-sectional and longitudinal studies. For instance, Beckmann et al. (2019) found that, among a large cross-sectional German sample of 10,638 ninth-graders, higher rates of peer dating violence perpetration were positively associated with and predicted self-reported verbal/emotional dating violence perpetration. Foshee et al. (2001) similarly

found that, among 1,965 eighth and ninth graders, having friends who were perpetrators of dating violence was cross-sectionally correlated with adolescents' own reported perpetration of mild and serious forms of physical and/or sexual dating violence. Meanwhile, in a longitudinal study involving a U.S. sample of 3,412 adolescents, Foshee et al. (2013) found that adolescents who had friends who reported perpetrating physical dating violence across Grades 8 through 12 reported higher levels of, and were at an increased risk of using, physical dating violence themselves across that period/throughout adolescence. In another longitudinal study of 1,666 adolescents (Grades 8 to 10), having a friend who reported using dating violence in the Fall of the academic year significantly predicted adolescents' own self-reported perpetration of physical dating violence in the Spring term (Foshee et al., 2010). Arriaga and Foshee (2004) also found that, among a U.S. sample of 526 adolescent males and females (Grades 8 and 9) across 14 public middle schools, adolescents' perceptions of their friends' involvement in perpetrating or experiencing physical dating violence were cross-sectionally associated with their own reported experiences as both a perpetrator and a victim of physical dating violence. Friend dating violence at Time 1 also predicted adolescents' perpetration of dating violence at Time 2 (i.e., six months later).

The relation between peer dating violence perpetration and one's own use of offline dating violence has also received support among college student samples. For example, among a random U.S. sample of 289 undergraduate college students, Gwartney-Gibbs et al. (1987) similarly found that peer involvement in sexual dating violence was cross-sectionally correlated with self-reported use of physical, verbal, and sexual dating violence. In another cross-sectional study, Williamson and Silverman (2001) also revealed that university male students who associated with peers who verbally endorsed and behaviourally modeled physical, verbal, and sexual dating violence were more likely to participate in physical dating violence themselves. Cochran et al. (2017) similarly found that the more college students

perceived that dating violence occurred among their peers the more likely they were to perpetrate physical dating violence against their partner. Moreover, Minter (2014) also found that, among a community sample of 1,021 emerging adults aged 22 to 29, participants' perceptions of their peers' involvement in intimate partner physical violence was cross-sectionally related to increased odds of self-reported perpetration of physical dating violence. Cross-sectional and longitudinal studies also document a relationship between adolescents' and emerging adults' affiliation with peers who are aggressive toward other peers and who engage in other deviant, risk and/or antisocial behaviours (e.g., stealing, cheating, fighting, substance use) with their own perpetration of offline dating violence (e.g., Capaldi et al., 2001; Foshee et al., 2010; Miller et al., 2009; Minter, 2014; Schnurr & Lohman, 2013; Williams et al., 2008). Peskin et al. (2017) also recently found that peer substance use was cross-sectionally associated with higher odds of self-reported cyber dating abuse perpetration among adolescents.

Peer Attitudes Toward Dating Aggression. Researchers have also found support for the relationship between emerging adults' perceptions of their peers' norms and attitudes that are accepting of dating violence and their own perpetration of dating aggression. Few studies to date, however, have examined the relation between peer norms and one's perpetration of CDA. In one recent cross-sectional study of 466 secondary school students aged 16 to 22, Van Ouytsel et al. (2020) found that perceived social norms of peers that are approving of cyber dating abuse were positively associated with and predicted adolescents' self-reported perpetration of cyber dating abuse (i.e., digital monitoring behaviours). Schell (2018) similarly found that, among Canadian university students aged 18 to 25, perceived peer approval of cyber dating abuse was positively correlated with and predicted self-reported perpetration of cyber dating abuse.

Research also supports a relationship between peer norms that are approving of aggression and one's own perpetration of offline dating violence. Among a U.S. community sample of adult men aged

21 to 35, McKool et al. (2017) found a cross-sectional association between perceived peer supportive attitudes toward sexual dating violence and self-reported perpetration of sexual dating violence. Cochran et al. (2017) also found that, among a U.S. sample of 1,124 university students, the more students perceived that their friends would approve of dating violence, the more likely they were to perpetrate physical dating violence against their partner. Moreover, Bartholomew et al. (2013) found that university students' ($M_{\text{age}} = 21$ years) perceptions of their peers' attitudes toward the acceptability of physical and psychological dating aggression were independently associated with their own intentions to hit a dating partner in a hypothetical scenario. Foshee et al. (2013) also found that adolescents who had more friends with generally pro-social beliefs (e.g., unacceptability of dishonesty, cheating, or substance use) during Grades 8 to 12 reported lower levels of physical dating violence perpetration during this same developmental period than adolescents who had less or no friends with pro-social beliefs.

Meanwhile, in several studies, including in both cross-sectional and longitudinal studies, perceived peer norms that are accepting of sexual aggression have been positively associated with adolescents' and emerging adults' own perpetration of sexually aggressive behaviour, especially among males (DeKeseredy & Kelly, 1995; Enosh, 2007; McKool et al., 2017; Strang & Peterson, 2013; Thompson et al., 2011; Thompson et al., 2013; Thompson, 2014).

Friendship Quality. As noted, in my study, friendship quality is conceptualized as comprising various positive relationship characteristics (e.g., emotional support, intimate disclosure, companionship, satisfaction) and negative relationship features (e.g., conflict, criticism, pressure, exclusion; Buhrmester & Furman, 2008). Higher friendship quality is indicated by higher levels of positive relationship characteristics and lower levels of negative relationship characteristics. Research supports the notion that having high quality friendships and peer relationships is adaptive and contributes to psycho-social adjustment and well-being (e.g., increased feelings of self-worth; Clifford

& Nelson, 2019; higher levels of self-reported happiness; Demir et al., 2018), whereas low quality friendships, peer rejection, and social isolation are maladaptive and contribute to psycho-social maladjustment (e.g., lower self-esteem, higher anxiety/depression; Bagwell et al., 2005).

Various researchers have found a relationship between friendship quality and the perpetration of offline dating aggression among adolescents and emerging adults (e.g., Foshee et al., 2013; Linder & Collins, 2005; Schacter et al., 2019; Vagi et al., 2013). In a longitudinal study of 1,987 ethnically diverse high school students, Schacter et al. (2019) found that adolescents who experienced greater increases in peer rejection across middle school (i.e., from Grades 6 to 8) reported greater physical aggression perpetration in their 11th grade romantic relationships. Meanwhile, Foshee et al. (2013) also found that adolescents who reported having higher quality friendships (i.e., more reciprocated friendships and a higher proportion of transitive triads) during Grades 8 through 12 reported lower levels of, and were at a decreased risk of engaging in, physical dating violence across that period/throughout adolescence. Moreover, in a U.S. longitudinal study following participants from birth to 23 years of age, Linder and Collins (2005) found that participants who had lower quality friendships (i.e., lower security, closeness, disclosure, and conflict resolution and higher conflict) during adolescence (i.e., at age 16) were at an increased risk of perpetrating physical violence toward their dating partner during emerging adulthood (i.e., at ages 21 and 23). In addition, in another longitudinal study involving a large U.S. sample of 346 female youth (Grades 7 to 12), Richards et al. (2014) found that increased levels of support from friends at Time 1 was associated with significantly less physical and emotional dating violence perpetration at Time 2 (i.e., one year later).

Few studies have examined the relation between friendship quality and CDA perpetration, and extant findings are mixed. In a cross-sectional study of 101 Canadian university students (aged 18 to 25), Schell (2018) found that friendship quality (e.g., having fun with friends, being able to depend on

friends for help, advice, and support) did not significantly predict CDA perpetration (e.g., spreading secrets about partner using new technologies, checking partner's mobile phone without permission). However, among a Spanish sample of 1,657 undergraduate university students ($M_{age} = 20.59$ years), Villora et al. (2019) found that social support from friends correlated negatively with the perpetration of cyber dating aggression (e.g., spreading rumours/gossip, insulting comments, threats), and that lack of social support increased the probability of perpetration. Conversely, two other cross-sectional studies examining perceived social support from friends as a potential protective factor for CDA perpetration (e.g., threats, posting embarrassing photos, unwanted/coercive sexting) among adolescents did not find support for this relationship (Peskin et al., 2017; Smith-Darden et al., 2017). Inconsistent findings across studies can likely be attributed to differences in methodologies used (e.g., sample, methods, measurement). It is clear that more studies that examine the link between friendship quality and CDA perpetration are needed.

Taken together, the existing literature provides support for the relationship between the reviewed peer factors (i.e., friendship quality, peer attitudes toward dating aggression, and friendship quality) with the perpetration of offline and cyber dating aggression among adolescents and emerging adults. Although few studies to date have examined the relationship between peer factors and CDA perpetration, there is emerging support for relations with CDA perpetration for those peer factors of interest. Thus, all together, these findings provide the foundation for my research questions exploring the relationship between peer factors and sexual CDA perpetration among emerging adults.

The Mediating Role of Attitudes

Peer and pornographic media variables may exert their effects and be linked to CDA perpetration by way of emerging adults' attitudes toward dating aggression. My study attempted to provide support for the mediating role of dating aggression-tolerant attitudes in the relationship between

pornographic media usage and peer variables with CDA perpetration. The following is a review of the literature examining the relationship between personal attitudes toward dating aggression with consumption of aggressive media/pornography, peer factors, and dating violence perpetration.

Dating Aggression-Tolerant Attitudes and Dating Violence Perpetration. The belief that it is acceptable to use violence or behave aggressively towards a dating partner has been found to be one of the most consistent predictors of the perpetration of offline dating aggression and abuse (e.g., Capaldi et al., 2012; Foshee et al., 2001). Theories of partner violence (DeWall et al., 2011; Riggs & O'Leary, 1989) purport that individuals who perceive violence as a justifiable conflict resolution tactic are more likely to behave aggressively toward a romantic partner.

In a recent meta-analysis of 16 studies examining risk and protective factors associated with CDA perpetration among adolescents and emerging adults, Caridade and Braga (2020) documented a significant and positive weighted mean correlation between CDA perpetration and psycho-social individual risk factors, including personal attitudes/norms about aggression. Peskin et al. (2017) found that adolescents' more tolerant norms/attitudes toward dating violence were significantly and positively correlated with CDA perpetration and were associated with higher odds of perpetrating CDA. Researchers have also documented a positive association between more accepting attitudes toward sexual dating violence and higher levels of, or an increased likelihood of, perpetrating offline sexual dating aggression among young people (Courtain & Glowacz, 2018; Santana et al., 2006; Shen et al., 2012).

Aggressive Media, Pornography, and Attitudes. Consumption of aggressive media has also been associated with both short-term and long-term increases in aggressive thoughts and attitudes among youth and emerging adults (e.g., Shao & Wang, 2019; Teng et al., 2020). Adolescents' increased usage of aggressive media has been linked to more tolerant attitudes toward dating violence.

Researchers have also found that adolescents' tolerant attitudes toward dating violence mediated the longitudinal relationship between their use of aggressive media and their perpetration and experience of physical dating violence (Connolly et al., 2010; Friedlander et al., 2013). Thus, given these results for the use of aggressive media in general, it is conceivable that these mediation findings carry over to other aggressive media types, namely pornographic media.

Meanwhile, consumption of pornographic media in particular has been associated with young people's sexual scripts or their notions, expectations, and beliefs of what is appropriate behaviour in sexual and romantic situations, and these sexual scripts subsequently help guide actual sexual and romantic experiences and behaviour (e.g., Sun et al., 2016). More specifically, increased usage of pornographic media among adolescents and emerging adults has been associated with more permissive sexual norms, attitudes, and sexual scripts (e.g., Braithwaite et al., 2015; Leonhardt & Willoughby, 2018); less progressive gender role attitudes (e.g., Brown & L'Engle, 2009); negative and sexist attitudes toward women, more accepting attitudes of interpersonal violence and of violence against women (e.g., Hald et al., 2010; Malamuth et al., 2012; Richardson, 2018); and greater acceptance of rape myths and sexual violence (e.g., Allen, Emmers, et al., 1995; Malamuth et al., 2012).

In addition, Rodenhizer and Edwards (2019) also indicate that exposure to sexually explicit and sexually violent media was positively related to dating and sexual violence myths, and to more accepting attitudes toward dating and sexual violence among adolescents and emerging adults. Moreover, among four meta-samples of adults in the U.S., Wright (2020) found that sexual attitudes (i.e., attitudes toward pre/extra-marital sex) mediated the link between pornography use and sexual behaviour (e.g., pre-marital and extra-marital sex behaviour). Conversely, Jongsma (2019) found that hostile sexist attitudes did not mediate the relation between pornography use and intimate partner violence among emerging adults.

In summary, the literature supports a positive relationship between pornography consumption and attitudes accepting of dating, sexual, and interpersonal violence. Attitude-type variables, such as sexual attitudes and attitudes toward dating violence, have also been found to mediate the relation between usage of aggressive media and pornography with sexual behaviours and dating aggression perpetration. As such, these findings, along with research support for the positive relation between personal attitudes accepting of dating aggression and dating aggression perpetration, provide the motivation for exploring the mediating role of attitudes in the relationship between pornography consumption variables and sexual CDA perpetration.

Peer Factors and Attitudes. Meanwhile, research also supports a relationship between peer factors (i.e., peer aggression, peer attitudes toward dating aggression, friendship quality) and personal attitudes toward the acceptability of dating aggression. In a survey study involving 621 Canadian high school students (Grades 9 to 12), an aggressive peer context, including having aggressive friends (i.e., friends who were aggressive toward their peers and dating partners), was positively and cross-sectionally associated with personal acceptance of dating aggression (Williams et al., 2008). In their longitudinal study, Capaldi et al. (2001) found that adolescent boys' affiliation with deviant male peers (e.g., peers who lie, cheat, are aggressive) in mid-adolescence (ages 13 to 16) predicted their hostile attitudes toward and talk about women in late adolescence (ages 17 to 18), such that a process of support and reinforcement for such hostility appeared to occur in some peer groups. Hostile attitudes toward and talk about women with male peers was also found to mediate the longitudinal relationship between deviant peer association in adolescence and later physical and psychological aggression toward a dating partner in emerging adulthood. In addition, Bartholomew et al. (2013) found that university students' ($M_{\text{age}} = 21$ years) perceptions of their peers' attitudes toward the acceptability of physical and psychological dating aggression were positively associated with their personal attitudes about dating

aggression. Moreover, Schell (2018) found that Canadian university students (aged 18 to 25) with lower quality friendships reported more accepting attitudes toward cyberbullying and CDA.

Thus, while a positive relationship has been found between having peers who perpetrate dating aggression and personal attitudes accepting of dating aggression, as well as between peer and personal acceptance of dating aggression, a negative relationship has been documented between friendship quality and personal attitudes. These research findings, along with support for attitudes as a mediator in the relation between deviant peer association and dating aggression perpetration, provide the basis for examining the mediating role of attitudes in the relation between peer factors and CDA perpetration. As such, taken together, the literature provides support for investigating the role of attitudes as a potential mediator in the relationship between peer factors and pornography usage with CDA perpetration.

Theoretical Frameworks

The following theoretical frameworks, namely social cognitive theory and ecological systems theory, were selected as they allowed for the identification of key study factors reviewed that are relevant to the study. Social cognitive theory provided a framework for explaining and understanding the relationship between pornography and peer factors with perpetration, as well as a potential mechanism linking these variables to perpetration behaviours. Ecological systems theory was helpful in locating key study variables in different systems among a multitude of risk/protective factors that contribute to or guard against perpetration.

Social Cognitive Theory

According to social cognitive theory (Bandura, 1989), learning occurs in a social context and behaviour is influenced or determined by a reciprocal interaction between environmental, behavioural, and cognitive factors (i.e., concept of *reciprocal determinism*). Individuals learn to behave in certain ways by observing, and subsequently imitating, the behaviours of others in their environment (i.e.,

models). Models can, for instance, be real-life models (e.g., peers) or models that are encountered through the media (e.g., pornographic media actors). Individuals also learn by observing the consequence of others' behaviour, and they are more likely to model observed behaviour if, based on observation of these consequences, they expect that such behaviour will result in desired consequences.

Social cognitive theory has argued that background factors (e.g., peer and media factors), in addition to proximal factors (e.g., personal attitudes), can increase the likelihood that an individual will become involved in dating aggression (DeWall et al., 2011). In the context of my study, social cognitive theory suggests that young people learn to be aggressive toward dating partners by observing, and subsequently imitating, the aggressive behaviours of peers and media images who serve as potent role models for acceptable romantic behaviour. Prior socializing experiences with peers and from media exposure contribute to cognitions that either discourage or support aggressive behaviour, which in turn lead to non-aggressive or aggressive behavioural outcomes. Specifically, exposure to aggressive and/or degrading pornographic media images, as well as to friends who are aggressive toward dating partners and who are accepting of dating aggression, may foster and reinforce a positive attitude toward the use of aggression and increase individuals' beliefs that aggression is an acceptable way to resolve conflict, thus increasing the risk that individuals behave aggressively toward a romantic partner. Moreover, emerging adults with high quality peer relationships may also be less likely to perpetrate dating aggression because these relationships provide them with the opportunity to learn and practice skills (e.g., conflict resolution and perspective-taking skills) that are important for maintaining healthy romantic relationships, and that are then modeled in their relationships with a romantic partner (Connolly & Goldberg, 1999).

My study relies on social cognitive theory as the primary theoretical framework to help explain the relationship between peer variables and pornographic media usage with emerging adults'

perpetration of CDA, as well as the role of dating violence attitudes as a potential mechanism through which these variables are linked to CDA perpetration. The selection of my study predictors aligns with social cognitive theory's three components of reciprocal determinism, namely environmental factors (i.e., peer and pornographic media factors), cognitive factors (i.e., personal attitudes toward dating aggression), and behavioural factors (i.e., sexual CDA perpetration).

Ecological Systems Theory

The occurrence of dating aggression between partners in a dating relationship is linked to a complex web of factors and conditions. Ecological systems theory (Bronfenbrenner & Morris, 1998) has been helpful in organizing and describing those multiple risk and protective factors that are related to CDA, and in conceptualizing the way in which these factors can create an environment that condones or protects against aggressive behaviour between dating partners (Zweig et al., 2014). According to ecological systems theory, development is viewed as a dynamic process in which an individual's actions reflect the interaction between individual dispositions and the social environment. The social environment is multi-layered, with more proximal contexts nested within more distal ones and collectively the social contexts provide intersecting levels of influence. Bronfenbrenner referred to three social contexts as the micro-, macro-, and exo-systems.

The micro-system is the most immediate environmental setting and includes the attributes, behaviours, and attitudes of the individual, as well as peer and family influences. The influences operating at the macro-level are those of the dominant culture, including the values, beliefs, attitudes, and expectations of the community/society within which the individual resides and that affect the individual. One important source of communication about cultural and societal values, beliefs, and expectations is the mass media. Finally, the exo-system incorporates other formal and informal social structures that do not themselves involve the individual as an active participant but indirectly influence

the individual as they affect one of the microsystems (e.g., parents' workplace, local politics, social/legal services). My study focuses on individual attitudes and peer factors embedded in the micro-system, as well as on pornographic mass media embedded in the macro-system of this model. Thus, ecological systems theory is helpful in locating the different study variables of interest, including individual attributes (i.e., personal attitudes toward dating aggression), peer variables (i.e., peer perpetration of dating aggression, peer attitudes toward dating aggression, friendship quality), and pornographic media variables (i.e., consumption of content non-specific and content-specific pornography) as possible risk and protective factors that contribute to or protect against CDA perpetration among many other factors that interact across and within the different layers of influence.

Gaps in the Research Literature and Study Contributions

Several gaps exist in the current dating violence literature among emerging adults. First, there is a paucity of research in the area of CDA or abuse, including those factors that increase the risk of and protect against its perpetration. CDA is a relatively new phenomenon, and despite recent research that supports its high prevalence among emerging adults (e.g., Brown & Hegarty, 2018; Caridade & Braga, 2019; Caridade et al., 2019), as well as the integral role that technology and new media plays in the day-to-day experience of emerging adults (e.g., Hitlin, 2018; Pew Research Center, 2019), the majority of research in the area has focused primarily on adolescents, and less is known about the phenomenon among emerging adult populations. Furthermore, while several studies have examined the correlates and risk/protective factors of CDA (e.g., Peskin et al., 2017; Reed et al., 2018; Smith, Cénat, et al., 2018; Zweig et al., 2014), this research has focused mainly on risk factors and individual factors (e.g., attitudes about aggression, depression, violence perpetration), and little research has examined protective factors and background variables (e.g., peer and media variables) that are associated with CDA perpetration (Caridade & Braga, 2020).

Second, despite budding support for the relationship between consumption of aggressive media and dating violence perpetration (e.g., Connolly et al., 2010; Friedlander et al., 2013; McAuslan et al., 2018), along with research support for the high consumption of pornography (Carroll et al., 2008; Ezzell et al., 2020) and the relation between pornography use and sexual aggression among young people (e.g., Ferguson & Hartley, 2020; Jongsma, 2019), only some studies to date have examined the relationship between consumption of pornography, an aggressive media type, and the perpetration of sexual aggression specifically and exclusively in the context of dating or romantic relationships among emerging adults. Moreover, although themes of aggression, degradation, and domination are prevalent in the majority of popular modern-day pornography (Carrotte et al., 2020), and violent and degrading content may be an exacerbating factor in pornography consumption increasing the likelihood of sexually aggressive behaviour (Ferguson & Hartley, 2020), most measures of pornography consumption in naturalistic studies do not ask about exposure to various types of content (e.g., violent, non-violent but degrading; Wright et al., 2016) and limited research has examined the differential relationship between exposure to different types of pornography varying in aggressive or degrading content with the perpetration of sexual dating aggression. Furthermore, non-violent but degrading pornography, as differentiated from both violent pornography and non-violent nor degrading pornography, has been infrequently investigated as a pornography content type, and few researchers provide clear definitions for non-violent pornographic content.

Third, although peers play an important socializing role during emerging adulthood, few studies have investigated the role of the peer context in the perpetration of dating aggression among emerging adults (McKool et al., 2017). Research investigating the relationship between peer variables and the perpetration of dating aggression has mostly focused on adolescent populations and on the behaviours of friends and not on other aspects of the peer context (e.g., peer norms/beliefs, friendship quality; Foshee

et al., 2013). Few studies have examined the relationship between multiple domains of the peer context (i.e., friends' behaviour, friends' beliefs, and friendship quality) and CDA perpetration (Caridade & Braga, 2020). Limited research has explored peer-related protective factors associated with CDA perpetration, including friendship quality as a potential protective factor for perpetration (Caridade & Braga, 2020). Finally, much of the research that has examined the relationship between aggressive media and peer variables with dating aggression perpetration has focused on physical dating violence outcomes, and few studies have examined the relationship between these variables and sexual forms of dating aggression. No known research to date has explored the relationship between peer factors (i.e., peer dating violence perpetration, peer norms, friendship quality) and pornographic media with sexual CDA perpetration among emerging adults. Limited studies have explored mechanisms that underlie the relation between peer factors and pornographic media with CDA perpetration.

Given the above outlined gaps in the current literature, my study makes an important contribution to the field of CDA by investigating the unexplored relationship between pornographic media and peer-related risk and protective factors with the perpetration of sexual CDA among emerging adults. My study also takes a step further by seeking to identify a mechanism that can help explain the relationship between these factors and perpetration. These relationships are explored primarily within a social cognitive framework, allowing for the identification of important cognitive and environmental factors that contribute to behavioural outcomes or the perpetration of CDA.

Current Study

Study Objectives, Questions, and Hypotheses

In light of the above discussed gaps in the research literature, the first objective of the my study is to examine the relationship between the consumption of pornographic media and the perpetration of sexual CDA among emerging adults. In particular, in addition to exploring the relation between content

non-specific (i.e., overall/general) pornography consumption and perpetration, I also examine the differential relationship between different types of pornographic content (i.e., violent and degrading, non-violent but degrading, non-violent nor degrading) with the risk or likelihood of perpetrating sexual CDA. A second objective is to investigate the relationship between peer variables and CDA perpetration. More specifically, I examine peer-related risk and protective factors associated with CDA perpetration, including peer perpetration of dating aggression, peer norms/attitudes toward dating aggression, and friendship quality. A third and final objective is to explore the mediating role of emerging adults' attitudes tolerant of dating violence in the relationship between consumption of pornographic media and peer factors with CDA perpetration. Figure 1 displays the hypothesized relationships between consumption of pornography and peer factors with CDA perpetration, as mediated by personal attitudes toward dating aggression, and corresponding with mediation research questions 3A, 3B, and 3C below.

My study research questions and hypotheses are as follows:

Research Question 1A. Are emerging adults who consume overall/general pornography more frequently at an increased risk of, or are more likely to report, perpetrating sexual CDA compared to emerging adults who consume overall/general pornography less frequently?

Hypothesis.

-Adults who consume overall/general pornography more frequently will be more likely to report perpetrating sexual CDA compared to adults who consume overall/general pornography less frequently.

Research Question 1B. Are emerging adults who consume violent/degrading pornography and non-violent/degrading pornography more frequently more likely to report perpetrating CDA compared

to adults who consume violent/degrading pornography and non-violent/degrading pornography less frequently, respectively?

Hypotheses.

-Adults who consume violent/degrading pornography more frequently will be more likely to report perpetrating compared to adults who consume violent/degrading pornography less frequently.

-Adults who consume non-violent/degrading pornography more frequently will be more likely to report perpetrating compared to adults who consume non-violent/degrading pornography less frequently.

Research Question 1C. Is consumption of violent/degrading and non-violent/degrading pornography more detrimental than usage of non-violent/non-degrading pornographic content?

Hypotheses.

-More frequent consumption of violent/degrading pornography will be associated with an increased likelihood of self-reported perpetration, while more frequent consumption of non-violent/non-degrading pornography will *not* increase perpetration likelihood.

-More frequent consumption of non-violent/degrading pornography will be associated with an increased likelihood of self-reported perpetration, while more frequent consumption of non-violent/non-degrading pornography will *not* increase the likelihood of perpetration.

Research Question 2A. Are emerging adults with peers using aggression against dating partners, and with peers with more tolerant attitudes toward dating aggression, more likely to report perpetrating CDA compared to adults with no peers using dating aggression and with peers with less tolerant dating aggression attitudes, respectively?

Hypotheses.

-Adults with peers using dating aggression will be more likely to report perpetrating compared to adults with no peers using aggression against dating partners.

-Adults with peers with more tolerant attitudes toward dating aggression will be more likely to report perpetrating compared to adults with peers with less tolerant dating aggression attitudes.

Research Question 2B. Are adults with higher quality peer relationships (i.e., higher levels of social support, lower levels of negative interactions) less likely to report perpetrating CDA compared to adults with lower quality friendships (i.e., lower levels of social support, higher levels of negative interactions)?

Hypotheses.

-Adults with higher levels of social support within friendships will be less likely to report perpetrating compared to adults with lower levels of social support.

-Adults with lower levels of negative interactions within friendships will be less likely to report perpetrating compared to adults with higher levels of negative interactions.

Research Question 3A. Do aggression-tolerant attitudes mediate the relationship between frequency of pornography consumption and self-reported CDA perpetration?

Hypotheses.

-More frequent consumption of overall/general pornography will contribute to more tolerant attitudes toward dating aggression, which will subsequently increase the likelihood of self-reported perpetration.

-More frequent consumption of violent/degrading pornography will contribute to more tolerant dating aggression attitudes, which will then increase perpetration likelihood.

-More frequent consumption of non-violent/degrading pornography will contribute to more tolerant attitudes toward dating aggression, which will then increase the likelihood of perpetration.

Research Question 3B. Do aggression-tolerant attitudes mediate the relationship between peer dating aggression and peer attitudes with self-reported CDA perpetration?

Hypotheses.

-Having friends who are aggressive toward dating partners will contribute to more tolerant dating aggression attitudes, which will subsequently increase the likelihood of self-reported perpetration.

-Having friends who are more tolerant of dating aggression will contribute to more tolerant personal attitudes toward dating aggression, which will then increase perpetration likelihood.

Research Question 3C. Do aggression-tolerant attitudes mediate the relationship between friendship quality and self-reported CDA perpetration?

Hypotheses.

-Having higher quality friendships (i.e., higher levels of social support within friendships) will contribute to less tolerant attitudes toward dating aggression, which will subsequently decrease the likelihood of perpetration.

-Having higher quality friendships (i.e., lower levels of negative interactions within friendships) will contribute to less tolerant dating aggression attitudes, which will then decrease perpetration likelihood.

Chapter 2: Method

Design and Procedure

I addressed my study's research objectives by using a cross-sectional, correlational, online survey design. Data from participants of different ages (i.e., 18 to 25 years) was collected at a single

time point. The use of a cross-sectional design is important in the young field of study of CDA to begin to shed light on important correlates and predictors of CDA prior to progressing to longitudinal research. Moreover, situated in previous research that primarily supports correlational, rather than causal, relationships among the variables of interest, my study employed a correlational design and explored correlational and predictive relationships among pornography, peer, attitude, and dating aggression variables. Meanwhile, an online survey methodology is an efficient and cost-effective way to gather data and has been used by several CDA studies involving emerging adult and college student populations (e.g., Bennett et al., 2011; Borrajo et al., 2015; Burke et al., 2011; Lyndon et al., 2011; Marganski & Melander, 2018; Schnurr et al., 2013). Researchers also suggest that responding to sensitive questions online, such as those about aggression and violence, may increase the validity of self-reporting and minimize self-report bias by increasing perceptions of anonymity, privacy, and confidentiality (Tourangeau & Smith, 1996; Turner et al., 1998).

Recruitment

Prior to carrying out my study, the approval of the Research Ethics Board and the Educational Psychology Participant Pool at the University of Alberta (UofA) was obtained. My study's inclusion criteria required participants to be a) 18 to 25 years of age and b) currently in a heterosexual/opposite-sex dating relationship or in a dating relationship within the past year. My study's inclusion criteria, and the nature of the research topic that necessitated that participants report perpetrating sexual CDA, narrowed the possible pool of research participants. As such, participants were recruited from the UofA using different methods to ensure that an adequate sample size, including an adequate number of perpetrators relative to non-perpetrators, was obtained. Two main recruitment methods were implemented. One method was implemented at a time, and recruitment continued until an adequate sample size was obtained.

Recruitment Method 1. As a first step, I recruited participants from the UofA's Department of Educational Psychology Participant Pool in the Faculty of Education. Several CDA studies using college/university student and emerging adult samples have recruited participants through a university departmental research participant pool where students received course credit for participation (e.g., Bennett et al., 2011; Lyndon et al., 2011; Muise et al., 2009; Reed et al., 2016; Schnurr et al., 2013). Participants recruited through this method comprised of UofA students enrolled in undergraduate elementary/secondary programs in the Department of Educational Psychology in the Faculty of Education. Given limitations and regulations related to the Educational Psychology Participant Pool, the sole eligibility requirement for participants recruited via the participant pool was an age span of 18 to 25 years of age. Students who did not report currently being in an opposite-sex dating relationship or having been in a dating relationship within the past year were screened out following participation.

Eligible students aged 18 to 25 years interested in participating voluntarily signed up for my study on the university's online research participation system after reading the study information (e.g., study title, duration, eligibility requirement) that I provided. Because students were permitted to begin signing up for my study before the survey was made available, students received a notification email (Appendix A) when the survey became available that directed them to complete the survey. Two to three weeks after the survey was made available, students who had signed up but had not yet completed the survey received a reminder email to do so (Appendix B). This reminder email was important since students had a relatively narrow window of time to complete the survey. Participants received course credit for their participation.

Recruitment Method 2. Given that an adequate sample size was not obtained via the Educational Psychology Participant Pool, a sequential and final recruitment method involved posting a request for participants, including the study description and survey link, on the following UofA

websites/online spaces, e-newsletters, and emailing/messaging systems: 1) the Quad (i.e., an online blog space for all registered UofA students looking to become informed about and/or contribute to university and community events, news, information, and opinion; <https://blog.ualberta.ca/>); 2) the University of Alberta Students' Union Volunteer Registry (i.e., an online registry for UofA student volunteer opportunities both on and off-campus; <https://www.su.ualberta.ca/services/infolink/volunteer/>); 3) departmental student listservs and e-newsletters (i.e., Department of Psychology listserv, Undergraduate Psychology Association e-newsletter, Engineering Students' Society e-newsletter); and 4) the Student's Digest (i.e., an email messaging system and e-newsletter that targets all on-campus UofA students). Participants recruited via the above-described methods were eligible to participate only if they met both of the following criteria: a) 18 to 25 years of age and b) currently in an opposite-sex dating relationship or have been in a dating relationship within the past year. To provide prospective participants with an incentive to partake in my study, participants were provided with the opportunity to be entered into a raffle for a chance to win one of five \$25.00 Tim Horton's gift cards.

Survey Completion

Participants completed an anonymous online survey, on their own time and from a location of their choosing, that took approximately one hour to complete. The online survey was hosted on the website Hosted in Canada Surveys (hostedincanadasurveys.ca), a cost-effective online survey tool that is completely Canadian owned and operated, and with all data servers located in Canada.

Informed consent was presented and obtained before survey completion. Specifically, once participants clicked on the survey url, they were directed to the Hosted in Canada Surveys website where they were presented with a study information and consent form (Appendix C) prior to beginning the online survey. This form also contained a list of community resources. After reading the study information and consent form, participants were asked to click on a "Next" button to indicate their

informed consent to participate in the study. In following with debriefing procedures of previous dating aggression research (e.g., Zweig et al., 2013; Zweig et al., 2014), after survey completion, but prior to submitting the survey, participants were presented with a debriefing form (Appendix D) that informed them about the explicit purpose of the study and provided them with psycho-educational resources about dating aggression and a list of professional contacts/community resources (e.g., local and national suicide prevention hotlines, domestic violence/sexual assault service providers, school-based counselling center programs).

Participants

The final sample consisted of a total of 149 University of Alberta students. As per my study's participant eligibility criteria, only participants who reported being 18 to 25 years of age in addition to currently in a heterosexual/opposite-sex dating relationship or in a dating relationship within the past year were included in the study analyses. Participants included in the final sample were also not permitted to be legally married, and relationship status was permitted to range from casual/non-exclusive dating to cohabiting and/or engaged.

For participants recruited via the Educational Psychology Participant Pool (i.e., first recruitment method), a total of 132 students signed up for and completed my study. Out of these 132 participants, 59% ($n = 78$) were included in the study analyses and reported currently being in a heterosexual dating relationship or in a relationship within the past year. A total of 72 participants were recruited from outside of the participant pool (i.e., second recruitment method). In sum, 52% of the final sample was recruited from the Educational Psychology Participant Pool, while the remaining 48% was recruited using a combination of methods including the Quad, the UofA Students' Union Volunteer Registry, departmental student listservs and e-newsletters, and the UofA Students' Digest.

Care was taken to preserve as much data as possible. Only one case, recruited from outside of the participant pool, was removed from the data file given excessive missing data. The final sample was deemed large enough to have sufficient power to detect hypothesized relationships. Required sample size depends on a number of issues, including the desired power, alpha level, number of predictors, and expected effect sizes (Tabachnick & Fidell, 2013). According to Green (1991), a simple rule of thumb for the planned multiple regression analysis is $N \geq 50 + 8m$ (where m is the number of independent variables). This rule of thumb assumes an alpha level of .05, a statistical power of .80 ($\beta = .20$), and a medium-sized relationship between the independent variables and the dependent variable. Because, based on previous research, small to moderate effect sizes were expected for the relation between pornography and peer variables with CDA, this guideline was deemed to be adequate for calculating minimum sample size requirements for my study. Following with this multiple regression sample size guideline, a minimum sample size of 122 participants was required based on the total number of predictor variables included in the analyses (i.e., nine independent variables, including gender). Minimum sample size criteria and an adequate ratio of cases to predictor variables was thus met. In addition, in a review of studies aimed at identifying sample sizes required to achieve adequate power to detect mediation for different mediation tests, Fritz and MacKinnon (2007) reported a median sample size of 159.5 for studies using the “causal steps” (non-SEM) method (lower quartile = 86, upper quartile = 325), and a median sample of 142.5 for testing mediation using the indirect effect (lower quartile = 115, upper quartile = 285). Because my study’s sample size was only slightly lower than the median sample size found for testing mediation using the causal steps method, and higher than the median sample size found for testing mediation using the indirect effect, my study’s sample size was deemed sufficient to detect a mediation effect using the planned mediation analyses.

Participants included in the study analyses ranged in age from 18 to 25 years ($M = 21.09$, $SD = .17$). Sixty-two percent of participants identified as female, while 38% identified as male. The majority of participants were enrolled in the Faculty of Education and identified as heterosexual and of Caucasian ethnicity. In the final sample, 84% of participants reported currently being in a dating relationship, while 16% reported that they were not currently in a dating relationship but had been in one within the past year. All participants in the final sample reported being in a heterosexual dating relationship. Relationship status reportedly ranged from *casual/non-exclusive dating* to *engaged and cohabiting*, with the majority of participants reporting being *in a serious, committed relationship* (52%), followed by an *exclusive dating* relationship (27%). Relationships varied in length from *less than 2 months* to *5 years or more*, with *1 year to less than 3 years* being the most commonly endorsed response (40%). Overall, participants reported moderately high levels of relationship satisfaction ($M = 5.76$, $SD = 2.26$, on a scale from 0 to 8 with higher scores denoting higher satisfaction) and relatively low levels of relationship conflict ($M = 3.36$, $SD = 2.44$, on a scale from 0 to 8 with higher scores denoting higher conflict). See Table 1 for a detailed summary of participant characteristics.

Survey Measures

Participant Characteristics

A participant characteristics questionnaire (Appendix E) was included to acquire information on various participant attributes for descriptive purposes, including demographic variables (i.e., age, sex, ethnicity, sexual orientation, and socio-economic status including personal and combined parent annual income) and dating relationship characteristics.

Dating Relationship Characteristics. Given the dynamic nature of romantic and dating relationships during emerging adulthood (Meier & Allen, 2009; Reed et al., 2016), participants were asked to provide information regarding various dating relationship characteristics, including dating

relationship status/commitment level (ranged from casual/non-exclusive dating to engaged and cohabiting; adapted from Yarkovsky, 2016), length of dating relationship (ranged from less than 2 months to 5 years or more; adapted from Crockett & Randall, 2006), relationship satisfaction, relationship conflict, and sexual activity (adapted from Yarkovsky, 2016). As noted, only participants who reported currently being in a heterosexual dating relationship or having been in one during the past year were included in the study analyses. Participants who were not currently in a dating relationship were asked to answer questions in reference to their most recent dating partner within the past year. Participants were informed that a dating relationship is defined as "a relationship in which two individuals share an emotional, romantic, and/or sexual connection beyond a friendship, but they are not [legally] married" (Murray & Kardatzke, 2007, p. 79). This definition was adapted from a recent study of dating violence that used a college student sample. As in previous research (e.g., Yarkovsky, 2016), my study specified that, by definition, a dating partner is not a marital partner, but can, however, include partners who are engaged and/or cohabiting.

Cyber Dating Aggression (Appendix F)

Perpetration of sexual CDA was measured using four items that asked participants to indicate the frequency with which they perpetrate various behaviours toward their current or most recent dating partner within the past year on a 4-point Likert scale ranging from 0-*Never*, 1-*Rarely*, 2-*Sometimes*, to 3-*Very Often* (Zweig et al., 2013). Items included the following: 1) pressuring a partner to send a sexual or naked photo of him/herself; 2) sending a partner sexual or naked photos of oneself that one knew the partner did not want; 3) threatening a partner if the partner did not send a sexual or naked photo of him/herself; and 4) sending a partner text messages, email, IM, chats, etc., to have sex or engage in sexual acts with oneself when one knew the partner did not want to. These items were adapted from a study examining the extent of cyber dating abuse and how it relates to other forms of dating violence

among a sample of 5,647 seventh to 12th grade youth in north-eastern U.S. (Zweig et al., 2013). Limited CDA measures with adequate psychometric properties are available that capture the perpetration of sexual CDA specifically (Brown & Hegarty, 2018). Zweig et al. (2013) present a classification that clearly distinguishes non-sexual CDA and sexual CDA, the latter which is the focus of my study. In Zweig et al. (2013), Cronbach's alpha coefficient for the four-item sexual CDA subscale was $\alpha = .86$. In my study, the sexual CDA subscale showed good internal reliability, $\alpha = .87$. Responses were summed to obtain a total score ranging from 0 to 12, with higher scores indicating a greater frequency of sexual CDA perpetration. A dichotomous CDA variable was created, such that individuals who obtained a total score of 0 were classified as non-perpetrators, while individuals who obtained a total summed score of 1 to 12 were classified as perpetrators.

Pornography Consumption (Appendix G)

Consumption of both content non-specific (i.e., overall/general) pornography and content-specific pornography during the past six months was assessed, as described below. The literature on pornography consumption lacks well-validated and consistently used measures for pornography use, and there are no known validated measures of pornography consumption frequency among both men and women to date (Jongsma, 2019).

Overall/General Pornography Consumption. Consistent with much of the research that has used single-item measures to assess pornography consumption in the general population (e.g., Ezzell et al., 2020; Short et al., 2012; Wright et al., 2016), consumption of content non-specific (i.e., overall/general) Internet pornography was measured using a single item adapted from the Pornography Consumption Questionnaire (PCQ; Hald, 2006) that asked participants about their frequency of exposure to pornography during the past six months on a scale ranging from 1-*Never* to 6-*More than 5 times a week*. The PCQ, which includes the Pornography Consumption Effect Scale ($\alpha = .91$ and $.82$ for

positive and negative effect dimensions, respectively), has been validated in a sample of emerging adults (Hald & Malamuth, 2008). For the purpose of my study, responses were recoded (frequency score of 1 to 6), with higher scores indicating a greater frequency of overall/general pornography consumption.

Content-Specific Pornography Consumption. Participants were also asked about their frequency of consumption of three different types of pornographic content (three items) within the past six months on the same scale ranging from 1-*Never* to 6-*More than 5 times a week* (wording and scale adapted from PCQ frequency of exposure item). Three types of pornographic content were assessed, including the following: 1) violent *and* degrading, dehumanizing, and/or objectifying pornography (i.e., violent/degrading pornography); 2) non-violent and non-degrading, dehumanizing, and/or objectifying pornography (i.e., non-violent/non-degrading pornography); and 3) non-violent *but* degrading, dehumanizing, and/or objectifying pornography (i.e., non-violent/degrading pornography) – an infrequently investigated, but often discussed, third category (Kingston et al., 2009; Wright et al., 2016). The use of these three categories is warranted in light of researchers suggesting that the violent/non-violent binary may be flawed, and that not explicitly violent but nevertheless degrading, dehumanizing, and objectifying depictions may also affect aggressive attitudes and disinhibit aggressive behaviours (Wright & Tokunaga, 2016; Wright et al., 2016). In my study, responses for each of the three content-specific pornography consumption variables were similarly recoded (frequency score of 1 to 6), with higher scores indicating a greater frequency of consumption for each of the pornography content types.

Following with previous research (Kingston et al., 2009; Senn & Radtke, 1990; Wright et al., 2016), violent and degrading, dehumanizing, and/or objectifying pornography (i.e., *violent/degrading pornography*) is defined as sexually explicit materials in which non-consensual, degrading, coercive, aggressive, and/or violent sexual relations and behaviours are explicitly portrayed. This category includes portrayals of rape/sexual assault, physical violence (e.g., hitting, slapping, punching),

sadomasochism and bondage (Allen et al., 1995), sexual relations with an individual who has been drugged/is intoxicated, images that portray self-abuse or self-mutilation (Senn & Radke, 1990), and images where no actual violence is occurring but the model appears to be suffering from the aftermath of violence/abuse (Senn & Radke, 1990). Non-violent but degrading, dehumanizing, and/or objectifying pornography (i.e., *non-violent/degrading pornography*) is defined as sexually explicit material without any explicit non-consensual, coercive, aggressive, and/or violent content, but which nonetheless *implies* acts of submission, degradation, objectification, aggression, violence, and/or coercion by the positioning of the models, use of props, or display of unequal power relationships by differential dress, costuming, or positioning, or by setting of the viewer as voyeur (e.g., the model is engaged in some solitary activity and seems totally unaware or very surprised to find someone looking at him/her; Kingston et al., 2009; Senn & Radtke, 1990). Non-violent and non-degrading, dehumanizing, and/or objectifying pornography (i.e., *non-violent/non-degrading pornography*) is defined as sexually explicit material depicting explicitly consensual sexual relations, and that does not contain any overt or implied acts of submission, degradation, objectification, aggression, violence, and/or coercion, or display of unequal power relationships. This category has as its focus, the depiction of mutually pleasurable sexual expression between two people who have enough power to be there by positive choice (Kingston et al., 2009; Senn & Radtke, 1990). Senn and Radtke (1990) found that their participants (female Canadian undergraduates) could reliably differentiate between these three categories of pornographic materials.

In addition, the focus on Internet pornography provides a more reliable and valid assessment of emerging adults' consumption of pornography given that the Internet is the primary medium through which emerging adults gain access and are exposed to pornography today (e.g., Kraus, 2013). The explosive growth in access to the Internet has led to a commensurate increase in the availability, anonymity, and affordability of pornography (Braithwaite et al., 2015), and emerging adults are able to

access pornography through various outlets, such as on their laptops, mobile phones, video games consoles, and other electronic devices. In addition, the volume of sexually explicit content on the Internet is remarkable, with over four million websites containing pornographic material (Ropelato, 2006). Internet pornography is also available in various forms (i.e., content and presentation), including different modes of viewing and presentation (e.g., pornographic pictures, video clips, full-length movies, sexually explicit games, chat rooms, real-time and interactional) and encompassing a wide range of sexually explicit content (e.g., softcore/hardcore pornography, rape pornography, cartoon/anime pornography, reality pornography, multiple sexual partners; Short et al., 2012). Thus, in these ways, assessing emerging adults' exposure to Internet pornography provided a broader and more comprehensive understanding of their consumption.

Attitudes Toward Dating Aggression (Appendix H)

To assess participants' acceptance or tolerance of aggression within dating relationships, the Attitudes Towards Dating Violence Scales (ATDVS; Price et al., 1999) was used. The ATDVS measure attitudes toward males' and females' use of psychological, physical, and sexual dating violence. The measure has two scales, including Attitudes Towards Male Dating Violence (ATMDV) and Attitudes Towards Female Dating Violence (ATFDV). Both the ATMDV and ATFDV scales have three subscales of attitudes towards males' and females' use of psychological (ATMDV-Psyc and ATFDV-Psyc), physical (ATMDV-Phys and ATFDV-Phys), and sexual dating violence (ATMDV-Sex and ATFDV-Sex). For the purpose of my study, four scales were used, including the sexual dating violence scales (ATMDV-Sex, 12 items; ATFDV-Sex, 12 items) and the psychological dating violence scales (ATMDV-Psyc, 15 items; ATFDV-Psyc, 13 items). This is consistent with my study's focus on sexual CDA, as well as with conceptualizations of CDA as a form or subset of psychological dating violence (e.g., Korchmaros et al., 2013) and with research that supports the co-occurrence of CDA with

psychological dating violence (e.g., Temple et al., 2016). The use of the ATDVS is advantageous because it allows for the specification of attitudes toward male and female-perpetrated dating violence and of attitudes toward different forms of dating aggression that are of interest in this study. Participants rated items on a 5-point Likert scale ranging from 1-*Strongly disagree* to 5-*Strongly agree*.

The ATDVS have been used extensively and translated into a number of languages. The ATDVS have been used in various recent studies of emerging adults and college students (e.g., Anderson et al., 2011; Courtain & Glowacz, 2018; Karlsson, 2011; McDermott & Lopez, 2013; Murray et al., 2008; Schuster & Tomaszewska, 2020), and they have yielded good psychometric properties among these adult samples (e.g., subscale Cronbach's alphas ranging from .64 to .74; Anderson et al., 2011; total scale $\alpha = .91$; Murray et al., 2008; Cronbach's alphas of .78 and .71 for the ATMDV-Sex and ATFDV-Sex scales, respectively; Schuster & Tomaszewska, 2020). Researchers have used both the entire scale (e.g., Murray et al., 2008) and select scales of interest (e.g., Anderson et al., 2011; McDermott & Lopez, 2013; Schuster & Tomaszewska, 2020). The ATDV Scales have been validated in a large study of 823 junior and high school Canadian students (Price et al., 1999). The measure shows evidence for construct validity as it significantly correlates with the Attitudes Toward Women Scale for Adolescents (Galambos et al., 1985), a measure of traditional gender role beliefs. Support for criterion-related validity is also provided in that more accepting attitudes toward dating aggression on the ATDVS were related to boys' and girls' use of dating violence and to boys' affiliation with friends who perpetrated dating aggression. Internal consistencies for the ATMDV and ATFDV psychological and sexual dating violence scales range from $\alpha = .72$ to .88 (Price et al., 1999).

In my study, good internal reliability was demonstrated for all scales, ranging from $\alpha = .95$ to .97, and for the total scale (i.e., four combined scales), $\alpha = .97$. A total participant attitude score was

computed by averaging responses across the four scales, with higher scores indicating a greater acceptance or tolerance of aggressive or abusive dating behaviour.

Peer Factors

Perceived Perpetration of Dating Aggression by Peers (Appendix I). To assess perceived perpetration of dating aggression by peers, participants were asked to indicate the number of male and female friends (two items) who are currently or have been aggressive toward their dating partner(s) within the past 12 months on a 4-point Likert scale ranging from 1-*None* to 4-*Four or more*. These items and Likert scales were adapted from a study examining the relation between friend dating violence and youth's own perpetration of dating aggression (Arriaga & Foshee, 2004). Participants were asked to base their responses on both their own observations/witnessing of their peers' perpetration of dating aggression, and on their peers' reports of perpetrating dating aggression. Although previous research has focused largely on measures of peer perpetration of physical dating violence (e.g., Arriaga & Foshee, 2004; Cochran et al., 2017; Foshee et al., 2013; Minter, 2014), given the current focus on sexual CDA, the peer dating aggression measure in my study is more inclusive of diverse forms of dating aggression. Participants were informed that dating aggression includes physical (e.g., hitting), psychological/verbal (e.g., yelling, threats, constant monitoring, spreading rumours), and sexual (e.g., pressuring partner to have sex) dating aggression, either perpetrated offline or online.

The majority of researchers assessing the relationship between peers' use of dating aggression and youths' own dating behaviour have asked participants to indicate the number of friends who used aggression toward a romantic partner (e.g., Arriaga & Foshee, 2004; Beckmann et al., 2019; Foshee et al., 2001; Foshee et al., 2010; Peskin et al., 2017). In addition, employing the term "dating partner" rather than "boyfriend/girlfriend" terminology, as in previous research (e.g., Arriaga & Foshee, 2004), is more inclusive of different types of romantic and dating relationships (e.g., casual dating). Moreover,

the one-year time frame provides a broader assessment of peer dating aggression than previous research using narrower time frames (e.g., three months; Foshee et al., 2010; Foshee et al., 2013), is consistent with the measured perpetration timeframe, and has been used in prior research assessing perceived peer dating aggression (e.g., Beckmann et al., 2019; Minter, 2014).

As with prior research (e.g., Arriaga & Foshee, 2004; Foshee et al., 2001; Foshee et al., 2013), responses (number of male and female friends) were summed and recoded to form a dichotomous variable indicating the absence (0) or the presence (1) of at least one friend (male or female) using aggression toward a dating partner.

Perceived Peer Attitudes Toward Dating Aggression (Appendix J). Four scales of the Attitudes Towards Dating Violence Scales (ATDVS; Price et al., 1999), including the sexual dating violence scales (ATMDV-Sex and ATFDV-Sex) and the psychological dating violence scales (ATMDV-Psyc and ATFDV-Psyc), were adapted to measure participants' perceptions of their friends' attitudes toward males' and females' perpetration of psychological and sexual dating aggression. These four scales were similarly used to measure participants' own dating aggression attitudes. Participants were first asked to rate their own level of agreement with each item on a 5-point Likert scale ranging from 1-*Strongly disagree* to 5-*Strongly agree*, and then to rate these same items based on their perceptions of their friends' attitudes and beliefs. Please see the relevant section above for more details on this measure. In my study, good internal reliability was demonstrated for all scales, ranging from $\alpha = .94$ to $.96$, and for the total scale (i.e., four combined scales), $\alpha = .98$. A total mean peer attitude score was similarly computed by averaging responses across the four scales, with higher scores indicating peers' greater acceptance or tolerance of aggressive or abusive dating behaviour, according to participants' perceptions.

Friendship Quality (Appendix K). The Network of Relationships Inventory-Relationship Quality Version (NRI-RQV; Buhrmester & Furman, 2008) was adapted to assess the quality of participants' best or closest friendships. The NRI-RQV is a combination of the Network of Relationships Inventory (Furman & Buhrmester, 1985) and a family relationship measure (Buhrmester et al., 1991). It provides an eclectic and broad assessment of relationship qualities to describe the supportive and discordant qualities of relationships among children, adolescents, and adults (Buhrmester & Furman, 2008). It consists of 30 items and 10 scales, with three items per scale. The NRI-RQV assesses five positive relationship features (i.e., companionship, disclosure, emotional support, approval, satisfaction) and five negative relationship qualities (i.e., conflict, criticism, pressure, exclusion, dominance). It also allows participants to rate the quality of their relationships across a number of different types of personal relationships (e.g., best friends, romantic partner). Participants rated items on a 5-point Likert scale ranging from 1-*Never or hardly at all* to 5-*Always or extremely much*.

The NRI-RQV is appropriate for individuals aged 11 and older (Buhrmester & Furman, 2008). Although the NRI was developed for use with children, it has also been used with adolescent (e.g., Kenny et al., 2013; Krolikowski, 2020; Ling & Yaacob, 2015) and emerging adult or college student samples (e.g., Beckmeyer & Jamison, 2020; Chen, 2015). Good psychometric properties have been reported in studies employing emerging adult samples (e.g., Cronbach's $\alpha = .83$ and $.87$ for the Social Support and Negative Interactions scales, respectively; Beckmeyer & Jamison, 2020; Cronbach's $\alpha = .84$ and $.91$ for same- and opposite-sex friend subscales, respectively; Chen, 2015;). Scale Cronbach's alphas among a sample of sixth graders ranged from $.72$ to $.95$, except for two instances (Buhrmester & Furman, 2008). In my study, internal reliability for the individual subscales ranged from $\alpha = .86$ to $.98$. Cronbach's alphas for the two broad scales were as follows: Social Support, $\alpha = .97$ and Negative Interactions, $\alpha = .95$.

Two broad factor scores of Closeness (or Social Support) and Discord (or Negative Interactions) were calculated by averaging the responses on the relevant positive and negative scales, with higher scores indicating greater levels of social support and higher levels of negative interactions, respectively. Higher friendship quality is indicated by higher scores on the Social Support scale, and by lower scores on the Negative Interactions scale.

Chapter 3: Analyses and Results

The results are divided into five parts. First, prior to the analyses, data was screened for accuracy and missing data, and statistical assumptions for the main logistic regression analyses were evaluated. Second, descriptive statistics were computed for key study variables. *t*-tests were conducted to examine differences between perpetrators and non-perpetrators based on gathered participant characteristics, and chi square tests were performed to assess for relationships between participant characteristics and perpetration. Gender differences on key variables were also assessed. Third, bivariate correlations among key study variables were performed to assist in the selection of independent variables to be included in subsequent multiple logistic regression analyses based on significant or non-significant findings. Fourth, key study independent variables identified as significantly associated with perpetration based on the previous correlational analyses were tested simultaneously in a multiple logistic regression model to address the study's research questions. Fifth, mediation analyses were performed to test the study's mediation hypotheses.

Data Management and Statistical Assumptions

Examination of Data

Prior to data analyses, data points were examined for accuracy (e.g., values were within appropriate ranges/minimum and maximum values, means and standard deviations were plausible, participants who reported no overall/general pornography consumption also reported no consumption of

different types of pornographic content), unusual patterns of responses (e.g., repeated values), and completeness/missing data.

Missing Data

The Missing Value Analysis (MVA) module in SPSS version 27.0 was used to determine the amount and pattern of missing data. To date, there is no empirical consensus with regards to what constitutes excessive missingness, with suggested cut-offs ranging from 5% (Schafer, 1999) to 20% (e.g., Peng et al., 2006). In the current dataset, only 0.15% of the total data were missing. Missing values were scattered throughout cases and variables. Missingness within each measure varied from as little as 0.001% to 0.016%. One case was deleted due to excessive missing data (i.e., 23% of case data missing). Missing values were retained unadjusted in the dataset given the low proportion of missingness. The pattern of missing data was also examined using the MVA module. Non-significant findings on Little's (1988) MCAR test suggested that values were missing completely at random, and thus, that there was minimal potential for biased results.

Outliers

The presence of univariate and multivariate outliers was assessed for all key study variables. For continuous variables, standardized residuals (z scores) were screened and cases outside the absolute value of 3.29 were considered univariate outliers. Tabachnick and Fidell (2013) indicate that cases with standardized scores in excess of 3.29 are potential outliers. In addition to inspection of z scores, continuity of z scores was also taken into consideration when detecting outliers for continuous independent variables. Only two large z scores outside the absolute value of 3.29 were identified on the participant attitudes toward dating aggression variable. When continuity was taken into consideration, however, none of these cases were observed to be disconnected from the rest of the distribution. No other univariate outliers were detected on the pornography consumption, participant attitudes, peer

attitudes, and friendship quality measures. Tabachnick and Fidell (2013) advise that with a large sample size, a few standardized scores outside the recommended range are expected and may not be indicative of true outliers. Because higher scores on the attitude scale were expected to be rare, but of interest, these cases were retained unadjusted in the data set. These potential outliers were retained to maximize sample size and preserve power.

Multivariate outliers among continuous variables and influential observations were assessed using Mahalanobis distance scores exceeding 26.12 (cut-off obtained from chi-square table with $p < .001$). Two cases were identified as multivariate outliers; however, no cases were deemed to be influential observations. Main analyses with and without outliers yielded negligible differences; therefore, all potential outliers were retained to maximize sample size and power. Multivariate outliers for the two dichotomous variables were also assessed. No multivariate outliers were detected for the dichotomous variables.

Normality

Distribution of the dependent variable was assessed using histograms, probability plots (P-P plots), and skewness and kurtosis values. Plots of the dependent variable did not appear normally distributed. Skewness and kurtosis values were greater than a positive value of 1 (skewness = 1.82, kurtosis = 2.7), suggesting a positively skewed distribution and that the distribution is too peaked or narrow, with most of the responses in the center, respectively. Tests of normality, including the Kolmogorov-Smirnov and Shapiro-Wilk tests, provided additional confirmation that the assumption of normality was not upheld ($p = .02$). A square root transformation of the dependent measure was conducted, although it only resulted in a very slight improvement. Other types of transformation (e.g., logarithmic, inverse) also yielded the same results. Thus, data was retained unadjusted/not transformed for ease of interpretation.

Linearity

The assumption of linearity in logistic regression was assessed. The Box-Tidwell procedure (Box & Tidwell, 1962), which is appropriate for logistic regression models (Guerrero & Johnson, 1982), was used to test for a linear relationship between each continuous independent variable and the log odds/logit transformation of the dependent variable. This assumption was upheld for all continuous independent variables, as all interaction terms created for each continuous independent variable were not statistically significant.

Multicollinearity

Multicollinearity was assessed by examining the correlation matrix of predictor variables. Correlations between predictor variables did not exceed an absolute value of .9, indicating no issues with multicollinearity (Tabachnick & Fidell, 2013). An examination of collinearity statistics also indicated that this assumption was upheld for all predictor variables given that tolerance values for predictor variables were greater than .10 and variance inflation factor (VIF) values did not exceed 10 (Field, 2013).

Independence of Observations/Errors

Logistic regression assumes that responses of different cases are independent of each other, and that each response comes from a different, unrelated case (Tabachnick & Fidell, 2013). This assumption was upheld, as my study did not utilize a within-subjects design (i.e., observations do not come from repeated measurements or matched data) and the categories of the dichotomous dependent variable, and of each of the categorical independent variables, are mutually exclusive (i.e., participants could only select one response on each variable).

Descriptive Statistics

Means, standard deviations, percentages, and frequencies for key study variables, as applicable, are provided in Table 2.

Cyber Dating Aggression

Overall, 40% of participants ($n = 59$) reported that they perpetrated sexual CDA toward their current or most recent dating partner within the past year (i.e., reported perpetrating at least one act of CDA rarely). The most frequently reported item of sexual CDA was pressuring a dating partner to send a sexual/naked photo of themselves (32%), followed by sending one's partner a sexual/naked photo of oneself that the partner did not want (29%), and sending one's partner text messages, emails etc. to have sex/engage in sexual acts knowing that the partner did not want to (26%). The least commonly endorsed response was threatening one's partner if one's partner did not send a sexual/naked photo of themselves (9%).

To better understand perpetrators, independent samples t -tests were conducted to assess for mean differences on gathered participant characteristics (i.e., age, level of relationship satisfaction and conflict) between perpetrators and non-perpetrators. Chi square tests of independence were performed to assess for associations between perpetration and categorical participant characteristics (e.g., gender, sexual orientation, ethnicity, sexual activity). A significant association was found between gender and perpetration, $\chi^2 = 44.84$, $df = 1$, $p < .001$, with males being more likely to perpetrate sexual CDA than females (74% of males perpetrated compared to 18% of females).

Individuals who perpetrated sexual CDA ($n = 59$) were comparable to individuals who did not perpetrate ($n = 90$) on a variety of participant characteristics. No significant differences were found between perpetrators and non-perpetrators based on age, $t(148) = .83$, $p = .07$ (perpetrators = $M_{age} = 20.92$, $SD = 2.09$; non-perpetrators = $M_{age} = 21.21$, $SD = 2.14$). The majority of individuals reported

being enrolled in the Faculty of Education (perpetrators = 45%, non-perpetrators = 57%), described themselves as heterosexual (perpetrators = 97%, non-perpetrators = 87%), described their ethnicity as Caucasian (perpetrators = 65%, non-perpetrators = 66%), reported a yearly personal income under \$20,000 (perpetrators = 90%, non-perpetrators = 86%), and reported a parental income of \$100,000 or greater (perpetrators = 39%, non-perpetrators = 31%). In terms of dating relationship characteristics, most individuals from both groups also reported being in a serious, committed relationship (perpetrators = 52%, non-perpetrators = 57%), reported a relationship duration of 1 year to less than 3 years (perpetrators = 37%, non-perpetrators = 42%), and indicated that sexual activity is part of their dating relationship (perpetrators = 93%, non-perpetrators = 88%). No significant relationships were found between any of the above-mentioned participant characteristics and perpetration. No significant differences were found between perpetrators and non-perpetrators based on relationship satisfaction, $t(148) = 2.21, p = .08$ (perpetrators = $M = 4.43, SD = 1.32$; non-perpetrators = $M = 5.02, SD = 1.29$) or relationship conflict, $t(148) = -2.32, p = .07$ (perpetrators = $M = 4.07, SD = 2.02$; non-perpetrators = $M = 3.29, SD = 1.77$).

Pornography Consumption

On the whole, 80% ($n = 119$) of participants reported consuming overall/general pornography (i.e., reported consuming pornography *less than once a month* or more frequently). Participants reported moderate frequency of overall/general pornography consumption ($M = 2.88, SD = 1.45$). Most commonly, participants reported using overall/general pornography *1–2 times a month* (32%), followed by *less than once a month* (21%) and *1–2 times a week* (13%). With regards to consumption of specific pornographic content, 38% of participants reported consumption of violent/degrading pornography ($n = 57$), 54% consumed non-violent/degrading pornography ($n = 81$), and 48% consumed non-violent/non-

degrading pornography ($n = 71$). On average, participants reported relatively low frequency of usage of these pornography content types ($M = 1.86$ to 2.18).

With regards to gender differences in consumption, all male participants reported overall/general pornography consumption, while 67% of females reported using overall/general pornography. Men consumed overall/general pornography significantly more frequently than women, $t(147) = 10.71, p < .001$ (males = $M = 4.11, SD = 1.23$; females = $M = 2.13, SD = .99$). In addition, men consumed violent/degrading pornography significantly more frequently than women, $t(147) = 9.76, p < .001$ (males = $M = 2.93, SD = 1.56$; females = $M = 1.21, SD = .50$; 74% of males consumed this type of pornography compared to 16% of females), as well as non-violent/degrading pornography significantly more frequently compared to women, $t(147) = 10.73, p < .001$ (males = $M = 3.37, SD = 1.45$; females = $M = 1.45, SD = .71$; 86% of males compared to 35% of females). Women, however, consumed non-violent/non-degrading pornography significantly more frequently than men, $t(147) = 9.73, p = .02$ (males = $M = 1.70, SD = 1.68$; females = $M = 2.72, SD = .97$; 57% of females compared to 33% of males).

Peer Variables

In terms of peer dating aggression, 58% of participants reported having at least one friend (male or female) who has perpetrated dating aggression within the past year, while 42% of participants reported having no friends who have perpetrated dating aggression within the past 12 months. Males were significantly more likely than females to report having friends who perpetrated dating aggression (74% compared to 48%), $X^2 = 9.64, df = 1, p = .005$. Overall, participants perceived their peers to have relatively low dating violence-tolerant attitudes towards male- and female-perpetrated psychological and sexual dating violence ($M = 2.16, SD = 1.03$). Men reported having friends with significantly more violence-tolerant attitudes compared to women, $t(147) = 9.62, p < .001$. In addition, participants

generally reported moderate levels of social support within their friendships ($M = 3.14$, $SD = .98$), and low levels of negative friendship interactions ($M = 2.28$, $SD = .97$). Men also reported significantly higher levels of negative friendship interactions compared to women, $t(147) = 10.40$, $p < .001$.

Attitudes Toward Dating Aggression

On the whole, participants reported having relatively low dating violence-tolerant attitudes towards male- and female-perpetrated psychological and sexual dating violence ($M = 1.97$, $SD = 1.06$). Men reported significantly more dating violence-tolerant attitudes than women, $t(147) = 11.15$, $p < .001$.

Bivariate Correlations

Statistical analyses were conducted in SPSS version 27.0. A series of bivariate correlations were performed among key study variables (Table 3), including between key independent variables and CDA perpetration, to determine whether significant associations exist and to aid in the selection of independent variables to be included in subsequent multiple regression analyses based on significant or non-significant findings. Gender was added as an independent variable in these correlational analyses, and in subsequent analyses, given that a significant relationship was identified between gender and CDA perpetration in the aforementioned descriptive analyses section. The mediator variable, personal attitudes toward dating aggression, was also included in the correlational analyses. Pearson product-moment correlations (r) were conducted between continuous variables. Point-biserial correlation (r_{pb}), a special case of Pearson's correlation, was conducted between continuous and dichotomous variables. Meanwhile, the Phi correlation coefficient (r_{ϕ}) was examined when computing the correlation between two dichotomous variables.

As shown in Table 3, all key study independent variables including gender, and in addition to the mediator variable, were significantly correlated with CDA perpetration. All independent variables, with the exception of overall/general pornography consumption, were significantly associated with

perpetration at $p < .001$. Overall/general pornography consumption was significantly associated with perpetration at $p < .05$. The mediator variable was also significantly associated with perpetration at $p < .001$.

Strong/large correlations with CDA perpetration (r_{pb} and r_{ϕ} , ranged from $-.55$ to $.67$) were found for violent/degrading pornography consumption, friendship quality (social support and negative interactions), and gender. Meanwhile, all other independent variables, apart from non-violent/non-degrading pornography consumption, had moderate associations with CDA perpetration (r_{pb} and r_{ϕ} , ranged from $.31$ to $.37$). Non-violent/non-degrading pornography consumption had a small correlation with CDA perpetration ($r_{pb} = -.24$). The mediator variable of personal attitudes yielded the strongest correlation with CDA perpetration ($r_{pb} = .68$). Among the independent variables, the strongest correlations were evident for violent/degrading pornography consumption and for both indicators of friendship quality.

Positive correlations with CDA perpetration were found for consumption of overall/general, violent/degrading and non-violent/degrading pornography, peer dating aggression, peer attitudes, friendship quality (negative interactions), and personal attitudes toward dating aggression; as such, emerging adults who reported perpetrating CDA, compared to non-perpetrators, reported a higher mean frequency of consumption of overall/general, violent/degrading and non-violent/degrading pornography, as well as higher mean personal and peer attitudes tolerant of dating aggression, and higher mean negative friendship interactions. Self-reported perpetration was also associated with having at least one friend who perpetrated dating aggression. Meanwhile, negative correlations with CDA perpetration were found for non-violent/non-degrading pornography consumption, friendship quality (social support), and gender; thus, individuals who reported perpetrating CDA, compared to non-perpetrators, reported a lower mean frequency of consumption of non-violent/non-degrading pornography and lower mean

friendship social support. Self-reported perpetration was also associated with being male. Table 4 shows the means and standard deviations for continuous independent variables, separately for perpetrators and non-perpetrators.

Significant, small to moderate correlations (r , r_{pb} and r_{ϕ} , ranging from .18 to -.49), at $p < .001$, $p < .01$, and $p < .05$, were also found among all study independent variables, apart from non-violent/non-degrading pornography consumption not being significantly associated with either of violent/degrading pornography consumption nor non-violent/degrading pornography consumption. Personal dating aggression attitudes also showed significant, small to moderate correlations (r and r_{pb} ranging from .26 to .48) at $p < .001$ and $p < .01$ with study independent variables.

Analyses

Multiple logistic regression analysis was performed to address the study's research questions and to determine whether the assessed pornographic media and peer variables predict and serve as risk or protective factors for (i.e., increase or decrease the likelihood of) self-reported perpetration of sexual CDA. Simultaneous multiple regression analysis was an appropriate statistical test of choice as it allowed for the examination of the significance of the contribution of each study predictor on the dependent variable, while controlling for other predictors in the model. Multiple regression analysis also allowed for the examination of the proportion of variance in perpetration explained by the combination of all the study predictors entered into the model (i.e., overall fit /variance explained). Previous and recent studies examining risk and protective factors of dating aggression have commonly used regression analyses (e.g., Connolly et al., 2010; Hinduja & Patchin, 2020; Yarkovsky, 2016).

Multiple binomial logistic regression was selected as the statistical test of choice for several reasons. First, multiple binomial logistic regression is most commonly used to predict a dichotomous dependent variable from multiple continuous and/or categorical independent variables (Keith, 2019),

which is consistent with the type of dependent and independent variables in this study. Perpetration was decidedly treated as a dichotomous variable, which, along with the use of logistic regression models, is common in the CDA literature (e.g., Hinduja & Patchin, 2020; Zweig et al., 2013). Second, this statistical test is used to predict the likelihood of a dependent outcome, which is consistent with and addresses the study's research questions that query about the likelihood of CDA perpetration based on various independent measures. Third, as previously mentioned, perpetration scores were positively skewed and study data did not meet the assumption of normality; as such, unlike other types of regression analyses (e.g., linear regression), logistic regression was a better fit for the study data as it does not assume that data is normally distributed. Fourth, Keith (2019) suggests that logistic regression is an appropriate analytical choice when the dependent variable is a naturally-occurring categorical variable (i.e., variable that cannot be manipulated and occurs regardless of the role of the researcher). It can be argued that the perpetration of dating aggression is a naturally-occurring variable; some emerging adults may engage in dating aggression behaviours while others do not, and the perpetration of aggression cannot be manipulated, at least not ethically. Fifth, perpetration scores were relatively well-balanced across binary categories (i.e., 60% non-perpetrators, 40% perpetrators), allowing for adequate classification discrimination. Finally, Tabachnick and Fidell (2013) also suggest that, while variables measured on an ordinal scale can sometimes be treated as continuous, it is recommended that the scale in question consists of equal intervals and of seven or more categories or Likert options, neither of which fit this study's dependent variable measure (i.e., only four categories and unequal intervals between categories).

As previously noted, following with multiple regression sample size guidelines (Green, 1991; Tabachnick & Fidell, 2013), a minimum sample size of 122 participants was required based on the total

number of predictors included in the analyses (i.e., nine predictors, including gender). Minimum sample size criteria and an adequate ratio of cases to predictor variables was met.

Independent variables identified as significantly associated with CDA perpetration based on the previous correlational analyses were entered into the multiple regression model. The following predictors were entered simultaneously into the multiple binomial logistic regression analysis for perpetration: gender, overall/general pornography consumption, violent/degrading pornography consumption, non-violent/degrading pornography consumption, non-violent/non-degrading pornography consumption, peer perpetration of dating aggression, peer attitudes toward dating aggression, friendship quality-social support, and friendship quality-negative interactions.

The logistic model was statistically significant, $X^2 = 105.31$, $df = 9$, $p < .001$. The Hosmer and Lemeshow test was not statistically significant ($p = .59$), indicating that the model is not a poor fit. The model explained 69% (i.e., Nagelkerke R Square value) of the variance in perpetration and correctly classified 85% of cases. Sensitivity was 71%, specificity was 94%, positive predictive value was 89%, and negative predictive value was 83%.

Of the nine predictor variables inserted in the multiple logistic regression model, violent/degrading pornography consumption and friendship quality (social support and negative interactions) emerged as statistically significant predictors of the likelihood of self-reported CDA perpetration (Table 5). This is consistent with the fact that the strongest correlations with perpetration were evident for these independent variables. Despite significant correlational findings, gender, consumption of overall/general, non-violent/degrading and non-violent/non-degrading pornography, peer perpetration of dating aggression, and peer attitudes were not statistically significant predictors of perpetration. Overall, negative friendship interactions emerged as the strongest predictor of CDA

perpetration (odds ratio of 5.99), followed by violent/degrading pornography consumption (odds ratio of 4.25) and social support (odds ratio of .31).

Research Question 1A

Although consumption of overall/general pornography was identified as a significant correlate of self-reported perpetration ($r_{pb} = .33, p = .02$), inconsistent with hypotheses, consumption of overall/general pornography did not emerge as a statistically significant predictor of the likelihood of perpetration ($p = .19$) when all predictors were entered simultaneously into the multiple logistic regression model. Although not statistically significant, the relation between overall/general pornography use and CDA perpetration was in the expected positive direction as increased consumption would be related to an increased likelihood of perpetration. In addition, despite insignificant regression results, the previous significant correlational findings also showed that emerging adults who reported perpetrating CDA, compared to non-perpetrators, reported a higher mean consumption frequency of overall/general pornography.

Research Question 1B

Consistent with hypotheses, consumption of violent-degrading pornography was identified as a statistically significant predictor of the likelihood of self-reported perpetration, $p < .001$, such that emerging adults who consumed violent/degrading pornography more frequently were significantly more likely to report perpetrating sexual CDA than adults who consumed violent/degrading pornography less frequently. Individuals who consumed violent/degrading pornography more frequently had over four times higher odds of reporting perpetration compared to less frequent consumers. Consistent with these significant regression results, the previous correlational findings also revealed a significant, strong, and positive association between violent/degrading pornography consumption and perpetration ($r_{pb} = .67, p <$

.001), such that perpetrators reported a higher mean frequency of violent/degrading pornography consumption compared to non-perpetrators.

Meanwhile, although non-violent/degrading pornography consumption was significantly associated with self-reported perpetration ($r_{pb} = .36, p < .001$), inconsistent with hypotheses, it did not significantly predict the probability of perpetration ($p = .10$). Although not statistically significant, the relation between non-violent/degrading pornography use and CDA perpetration was in the expected positive direction as increased consumption would be related to an increased likelihood of perpetration. Moreover, despite insignificant regression findings, the previous significant and positive correlational findings also revealed that emerging adults who reported perpetrating CDA, compared to non-perpetrators, reported a higher mean frequency of non-violent/degrading pornography consumption.

Research Question 1C

Only violent/degrading pornography usage emerged as a significant predictor of self-reported perpetration. Neither non-violent/degrading nor non-violent/non-degrading pornography consumption significantly predicted perpetration.

Consistent with hypotheses, while more frequent violent/degrading pornography consumption was significantly associated with an increased likelihood of perpetration, more frequent use of non-violent/non-degrading pornography was not associated with an increased perpetration likelihood. As noted, use of non-violent/non-degrading pornography did not significantly predict perpetration likelihood ($p = .27$). Furthermore, the relation between usage of non-violent/non-degrading pornography and CDA perpetration, although not statistically significant, was in a negative direction, suggesting that increased consumption might potentially be related to a decreased likelihood of perpetration. In addition, bivariate correlational analyses also revealed that, although both content types were significantly correlated with perpetration at $p < .001$, consumption of violent/degrading pornography showed a

positive and strong association with perpetration ($r_{pb} = .67$), while non-violent/non-degrading pornography use had a negative and small correlation with perpetration ($r_{pb} = -.24$). As such, individuals who reported perpetrating, compared to non-perpetrators, consumed a higher mean frequency of violent/degrading pornography but a lower mean frequency of non-violent/non-degrading pornography.

Meanwhile, given insignificant findings for both non-violent/degrading and non-violent/non-degrading pornography consumption, support was not found for the hypothesis that more frequent usage of non-violent/degrading pornography would be associated with an increased likelihood of perpetration and would be more detrimental than usage of non-violent/non-degrading pornography. Notably, however, although not statistically significant, the relation between non-violent/degrading pornography use and perpetration was in the expected positive direction, while the relation between non-violent/non-degrading pornography usage was in a negative direction. Similarly, bivariate correlational analyses also revealed that, although both content types were significantly correlated with perpetration at $p > .001$, non-violent/degrading pornography use was positively associated with perpetration ($r_{pb} = .36$), while non-violent/non-degrading pornography use showed a negative association with perpetration ($r_{pb} = -.24$). Thus, individuals who reported perpetrating, compared to non-perpetrators, consumed a higher mean frequency of non-violent/degrading pornography but a lower mean frequency of non-violent/non-degrading pornography.

Research Question 2A

Although peer perpetration of dating aggression was significantly correlated with self-reported perpetration ($r_{\phi} = .31, p < .001$), contrary to hypotheses, peer perpetration did not significantly predict perpetration likelihood ($p = .68$). Notably, however, although not statistically significant, the relation between peer dating aggression and CDA perpetration was in the expected positive direction, as individuals with peers using dating aggression would be more likely to report perpetrating compared to

individuals with no peers using aggression against dating partners. In addition, despite insignificant regression results, the previous correlational findings also showed that self-reported perpetration was significantly associated with having at least one friend who perpetrates dating aggression.

Similarly, although perceived peer attitudes toward dating aggression was significantly correlated with perpetration ($r_{pb} = .37, p < .001$), inconsistent with study hypotheses, peer attitudes did not emerge as a significant predictor of perpetration likelihood ($p = .14$). Of note, although not statistically significant, the relation between peer attitudes and CDA perpetration was in the expected positive direction, as individuals with peers with more tolerant attitudes toward dating aggression would be more likely to report perpetrating compared to individuals with peers with less tolerant dating aggression attitudes. Moreover, despite insignificant regression findings, the former significant, positive correlational results also demonstrated that individuals who reported perpetration, compared to non-perpetrators, reported higher mean peer attitudes tolerant of dating aggression.

Research Question 2B

Both friendship quality variables – friendship social support and negative interactions – were significant predictors of the likelihood of self-reported CDA perpetration. Emerging adults with higher quality friendships were significantly less likely to report perpetrating sexual CDA than adults with lower quality friendships. In particular, in line with study hypotheses, individuals with higher levels of social support within friendships were significantly (.31 times) less likely to report perpetration compared to individuals with lower levels of friendship social support ($p = .004$). Similarly, individuals with higher levels of negative friendship interactions were significantly (5.99 times) more likely to report perpetrating compared to individuals with lower levels of negative interactions within friendships ($p = .001$). Consistent with these significant regression results, the previous correlational findings also revealed significant and strong associations between friendship quality-social support ($r_{pb} = -.63, p$

<.001) and friendship quality-negative interactions ($r_{pb} = .66, p < .001$) with CDA perpetration, such that individuals who reported perpetration, compared to non-perpetrators, had lower mean friendship social support and higher mean friendship negative interactions.

Mediation Analyses

A series of mediation analyses were performed to address the study's mediation research questions and to test whether participants' attitudes toward dating aggression mediated the relation between pornography consumption and peer factors with self-reported CDA perpetration. Given that only three predictors emerged as significant based on the previous multiple logistic regression results (i.e., violent/degrading pornography consumption, friendship quality-social support, and friendship quality-negative interactions), the mediator effect of attitudes was examined only for these independent variables to aid in understanding how these significant predictors are linked with perpetration. Andrew Hayes' Process macro software version 3.5 in SPSS version 27 was used to test for mediation effects. Hayes' Process macro can be used to test for mediation effects when the dependent variable is binary (Hayes, 2017).

Baron and Kenny's (1986) four step procedure for testing mediation (Figure 2) continues to be a widely adopted statistical method for assessing mediation. More contemporary analyses, however, focus on the significance of the indirect effect and do not necessitate a significant finding for the total effect (i.e., path *c* in Figure 2; Hayes, 2009). To remain consistent with the majority of the literature on mediation, Baron and Kenny's (1986) four step approach was employed. Significance of the indirect effect was also used to evaluate each mediation hypothesis. Three separate mediation hypotheses were evaluated (i.e., corresponding with research questions 3A and 3C) and are discussed below.

The significance of the total effect, path *c*, for each of the three independent variables being tested in the mediation analyses was formerly assessed in the previous multiple logistic regression

analyses; as such, results from the regression analyses were used to evaluate whether the initial criteria for the Baron and Kenny approach (i.e., significance of the total effect, path *c*) was met for each of the three independent variables of interest. As initial criteria (i.e., significance of the total effect) was not met for all other independent variables that did not emerge as significant predictors of perpetration, mediation hypotheses relating to these predictors were unsupported.

Of note, each mediation hypothesis was tested using two regression models. The first model estimating path *a* was an ordinary least squares regression, where the mediator, a continuous variable, was regressed onto the independent variable. The second model estimating paths *b* and *c*' was a logistic regression model, where perpetration, a binary dependent variable, was regressed onto the independent and mediator variables. A summary of the mediation analyses can be found in Table 6.

Violent/Degrading Pornography and CDA Perpetration (Research Question 3A)

In Step 1, I examined the relation between consumption of violent/degrading pornography and CDA perpetration (path *c*). Based on results from the previous multiple logistic regression analyses (see Table 5), violent/degrading pornography consumption was found to significantly predict the likelihood of perpetration; thus, according to Baron and Kenny's (1986) model, the initial criteria for mediation was met. In Step 2, I assessed the relation between violent/degrading pornography consumption and the proposed mediator variable, participant attitudes toward dating aggression (path *a*). Support was found for path *a*, as violent/degrading pornography consumption significantly predicted attitudes toward dating aggression. Steps 3 and 4 were examined within the same model. In Step 3, I examined the relation between attitudes and perpetration while controlling for pornography consumption (path *b*). Support was found for path *b* as attitudes significantly predicted perpetration while controlling for pornography consumption. Finally, in Step 4, I assessed the direct effect (path *c*') of pornography consumption on

perpetration, controlling for participant attitudes. Violent/degrading pornography consumption did not significantly predict perpetration when attitudes was added to the model.

The indirect effect was tested using non-parametric bootstrapping. Confidence intervals were generated using the bootstrapping method. The indirect effect (3.50) was also statistically significant (95% CI=[2.26, 5.74]). Taken together, results showed that participants' attitudes fully mediated the relationship between violent/degrading pornography consumption and perpetration. In particular, consistent with hypotheses, individuals who more frequently consumed violent/degrading pornography had more violence-tolerant attitudes, and having more violence-tolerant attitudes subsequently increased the likelihood of self-reported perpetration. See Figure 3 for a visual representation of mediation results.

Friendship Quality and CDA Perpetration (Research Question 3C)

The same steps outlined above were used to assess the remaining mediation hypotheses. Results from the previous multiple logistic regression analyses (see Table 5) showed that friendship quality (social support) significantly predicted perpetration. Thus, the initial criteria for mediation was met (i.e., path *c* was supported). Support was also found for paths *a* and *b*, and friendship social support significantly predicted perpetration ($p = .03$) when attitudes was added to the model (path *c'*). The indirect effect (-1.88) was significant (95% CI=[-3.00, -1.19]). As such, results showed that attitudes partially mediated the relation between social support within friendships and CDA perpetration. Consistent with hypotheses, participants with higher social support within friendships had less violence-tolerant attitudes, which subsequently decreased the likelihood of perpetration.

Meanwhile, attitudes also partially mediated the relation between friendship negative interactions and perpetration. Also consistent with hypotheses, individuals with lower levels of negative interactions had less violence-tolerant attitudes, which then decreased the likelihood of perpetration. The initial criteria for mediation was met (i.e., path *c* was supported). Paths *a* and *b* were also supported, and

negative interactions significantly predicted perpetration ($p = .006$) when the attitudes variable was added to the model (path c'). The indirect effect (1.98) was also statistically significant (95% CI=[1.09, 3.42]). Mediation results for friendship quality are illustrated in Figure 4.

Chapter 4: Discussion

There is a paucity of research in the field of CDA, including those factors that increase the risk of and protect against its perpetration. CDA is a relatively new phenomenon, and despite its high prevalence and the integral role of technology among emerging adults, the majority of research in the area has focused primarily on adolescents, and less is known about the phenomenon among emerging adult populations. Research examining the correlates and risk/protective factors of CDA has also focused mainly on risk factors and individual factors, and little research has examined protective factors and background variables (e.g., peer and media variables) that are associated with CDA perpetration.

Study Objectives

The first objective of my study was to examine the relationship between emerging adults' consumption of pornographic media and their self-reported perpetration of sexual CDA. In particular, I explored the relationship between emerging adults' consumption of content non-specific (i.e., overall/general) pornography and their reports of perpetration, as well as whether emerging adults' consumption of different types of pornographic content (i.e., violent and degrading, non-violent but degrading, non-violent nor degrading) were differentially related to perpetration. A second objective was to examine the relationship between peer factors and CDA perpetration, namely, peer-related risk and protective factors associated with CDA perpetration, including peer perpetration of dating aggression, peer attitudes toward dating aggression, and friendship quality. Finally, the third objective of my study was to explore whether emerging adults' attitudes toward dating aggression helped explain how their consumption of pornographic media and peer relationships are linked with their perpetration of CDA.

Review of Main Results

Consistent with previous research, my study's findings document the high rate of sexual CDA among emerging adults. Rates of sexual CDA perpetration in the current sample were high, compared to previous research that has assessed rates of sexual CDA perpetration specifically (2.7% in Zweig et al., 2013), with 40% reporting perpetration (i.e., reported perpetrating at least one act of sexual CDA rarely). These differences in prevalence rates may be due to differences in sample characteristics (e.g., age) and research methodology between studies (Brown & Hegarty, 2018). For instance, in the study by Zweig et al. (2013), classroom teachers administered paper-pencil surveys to high school students, which might have decreased students' perceptions of the confidentiality and anonymity of their responses and led to an under-estimation of self-reported perpetration rates. My study's perpetration rates, however, are consistent with a recent systematic review of CDA studies that documents perpetration rates between 8.1% to 93.7% among adolescents, emerging adults, and college/university students (Caridade et al., 2019).

Gender and Sexual CDA

Although not hypothesized, gender emerged as a significant correlate of sexual CDA perpetration wherein perpetration was associated with being male. Males made up the majority of perpetrators of sexual CDA, with 74% of males and only 18% of females reporting perpetration. This finding is consistent with past studies that have found significant gender differences in prevalence rates of self-reported sexual CDA perpetration, wherein males reported higher perpetration rates than females (Kernsmith et al., 2018; Reed et al., 2016; Reed et al., 2017; Smith-Darden et al., 2017; Zweig et al., 2013). Although gender was identified as a significant independent correlate of perpetration in my study, consistent with recent meta-analytic results that did not find an overall significant relationship between gender and CDA perpetration (Caridade & Braga, 2020), gender ultimately did not predict CDA

perpetration when other study variables were controlled. That gender did not predict perpetration likelihood above and beyond the other study variables suggests that, although different rates of sexual CDA perpetration are likely to exist between genders, gender might not be a critical factor—at least above and beyond pornography consumption and peer variables—in predicting and understanding perpetration.

Pornography and Sexual CDA

Out of all the pornography consumption variables assessed, only consumption of violent/degrading pornography was identified as a significant predictor of sexual CDA perpetration. Consumption of violent/degrading pornography was identified as the strongest predictor of perpetration among all study independent variables. Consistent with hypotheses, emerging adults who consumed violent/degrading pornography more frequently were more likely to report perpetrating compared to individuals who consumed violent/degrading pornography less frequently. Specifically, more frequent consumers had over four times higher odds of perpetrating compared to less frequent consumers. Meanwhile, contrary to hypotheses, consumption of overall/general and non-violent/degrading pornography did not significantly predict the likelihood of perpetration.

The finding that violent/degrading pornography consumption emerged as the sole pornography-related significant predictor of CDA perpetration is supported by previous research that purports that violent pornographic content in particular may be an exacerbating factor, and that consumption of violent pornography, compared to non-violent pornography, is more strongly associated with and generates higher levels of aggression (Allen, D'Alessio, & Brezgel, 1995; Boeringer, 1994; Ferguson & Hartley, 2020; Hald et al., 2010; Wright et al., 2016). However, although researchers suggest that not explicitly violent, but nevertheless degrading pornographic depictions may also contribute to aggressive attitudes and disinhibit aggressive behaviours (Wright & Tokunaga, 2016), contrary to hypotheses, more

frequent use of non-violent/degrading pornography did not significantly predict an increased likelihood of perpetration when controlling for other predictors in the model, although findings were in the expected positive direction. Similarly, despite research support for a positive predictive relationship between content non-specific measures of pornography use and sexual aggression (e.g., Bonino et al., 2006; Brown & L'Engle, 2009; Peter & Valkenburg, 2016), more frequent use of overall/general pornography also did not significantly predict an increased probability of perpetration when other predictors were controlled for, although findings were also in the expected positive direction.

These insignificant findings for overall/general pornography and non-violent/degrading pornography are consistent with studies that have not found significant relationships with aggression for content non-specific measures of pornography (Hatch et al., 2020) and non-violent pornography (Ferguson & Hartley, 2020; Ybarra et al., 2011). The Confluence Model of sexual aggression (Malamuth et al., 2000) might also help explain these insignificant results. In particular, it is possible that individuals who more frequently consumed violent/degrading pornography, but not individuals who more frequently consumed non-violent/degrading and overall/general pornography, also possessed other predisposing risk factors for sexual aggression not measured in this study (e.g., hostile approach to gender relations, impersonal sex orientation). Moreover, the insignificant findings for overall/general pornography and non-violent/degrading pornography but significant finding for violent/degrading pornography supports the notion that the type of pornographic content being consumed matters, and that not all types of pornographic content is necessarily “bad” or contributes to aggressive behaviour. Thus, these observed differences in the significance of predictive findings between content-specific (i.e., violent/degrading) and content non-specific (i.e., overall/general) pornography, as well as between different types of pornographic content (i.e., violent/degrading and non-violent/degrading), emphasize

the importance of measuring the type of pornographic content being consumed, as has been highlighted by other researchers (Peter & Valkenburg, 2016; Wright et al., 2016).

Notably, although consumption of violent/degrading pornography emerged as the only significant pornography-related predictor of perpetration, all pornography consumption variables, including consumption of overall/general and non-violent/degrading pornography, were nonetheless significantly correlated with sexual CDA perpetration. The significant, positive correlations observed for overall/general, violent/degrading, and non-violent/degrading pornography are consistent with studies that have found significant positive correlations between usage of content non-specific, violent, and non-violent pornography with sexual and dating aggression (Bonino et al., 2006; Brown & L'Engle, 2009; Ferguson & Hartley, 2020; Jongsma, 2019; Wright et al., 2016).

The significant findings for violent/degrading pornography can be explained via the lens of social cognitive theory, which suggests that emerging adults learn to behave aggressively toward a dating partner by observing, and subsequently imitating, the aggressive behaviours of pornographic media images that serve as potent role models for acceptable romantic and sexual behaviour (Manganello, 2008). By observing sexually violent pornographic media images, individuals might learn that sexual aggression, such as that expressed through digital/electronic means (e.g., pressuring or threatening a partner to send a sexual photo or to have sex), is an acceptable and effective way of obtaining a desired goal (e.g., the sexual photo or sex) and of resolving conflict in their dating relationships. Meanwhile, the insignificant predictive finding for non-violent/degrading pornography is particularly surprising, since theoretically, media content that is implicitly aggressive and degrading should still contribute to aggressive cognitions and behaviours. That usage of implicitly aggressive and degrading pornography, as well as usage of content non-specific pornography, did not predict perpetration likelihood above and beyond explicitly violent content suggests that perhaps explicit

displays of aggression and degradation in pornography are needed for consumption to translate to aggressive behaviour.

Furthermore, consistent with hypotheses, usage of violent/degrading pornography was more detrimental than use of non-violent/non-degrading pornography, such that while more frequent use of violent/degrading pornography increased the likelihood of perpetration, more frequent consumption of non-violent/non-degrading pornography did not increase perpetration likelihood. In fact, use of non-violent/non-degrading pornography did not significantly predict perpetration and its relation with perpetration was observed to be in a negative direction. These results are, in part, consistent with past studies that found a significant positive relationship with sexual aggression only for consumption of violent pornography and not for the usage of non-violent pornography (Ferguson & Hartley, 2020; Ybarra et al., 2011). Also, although both content types were significantly correlated with perpetration, violent/degrading pornography showed a positive and strong bivariate correlation, while non-violent/non-degrading pornography showed a negative and only small correlation. Thus, together, these predictive and correlational results lend support to the notion that consumption of violent/degrading pornography may be more detrimental and play a stronger role in contributing to CDA than usage of pornography that does not contain themes of aggression nor degradation.

Meanwhile, contrary to my hypotheses, consumption of non-violent/degrading pornography was not more detrimental than usage of non-violent/non-degrading pornography as neither content types significantly predicted perpetration and a positive predictive relationship was not observed for use of non-violent/degrading pornography. However, it is notable that, although not statistically significant, the relation with perpetration was in a positive direction for non-violent/degrading pornography but in a negative direction for non-violent/non-degrading pornography. Non-violent/degrading pornography also showed a significant positive and moderate bivariate correlation with perpetration, while non-

violent/non-degrading pornography showed a significant negative and only small correlation. Taken together, these results indicate that although the hypothesis that use of non-violent/degrading pornography is more detrimental than use of non-violent/non-degrading pornography was not supported, differences in the strength and direction of the bivariate correlations, and in the direction of the regression coefficients, for these two content types with perpetration suggest that further research is needed to clarify the relationship of each content type with perpetration as well as differences in how these two content types are related to perpetration.

In addition, the insignificant predictive findings for non-violent/non-degrading pornography are not surprising, since theoretically, media content without any explicit nor implicit themes of aggression nor degradation would not contribute to aggressive cognitions and behaviour. Meanwhile, the significant negative bivariate correlation with perpetration observed for non-violent/non-degrading pornography but positive correlations with perpetration observed for the other two content types indicates that usage of pornography that depicts mutually consensual and pleasurable sexual relations without any displays of unequal power relationships or acts of aggression or degradation, might not be related to aggressive dating behaviours in the same way as use of pornography containing violent and/or degrading content; in particular, while *more* frequent use of violent and/or degrading pornography is associated with perpetration, *less* frequent use of non-violent/non-degrading content is associated with perpetration. This relationship between less frequent consumption of non-violent/non-degrading pornography and perpetration makes sense, since less frequent use of this content type might result in less exposure to media messages that oppose violence and degradation that could potentially inhibit aggressive cognitions and behaviours. These findings suggest that there might be something distinct about non-violent/non-degrading pornography compared to the other two content types, which is supported by the

different direction of correlation with perpetration for non-violent/non-degrading pornography as well as insignificant correlations for non-violent/non-degrading pornography with the other two content types.

Moreover, a comparison of the significant correlations with perpetration among all three content-specific pornography types revealed that the strongest correlation was observed for violent/degrading pornography consumption (i.e., strong and positive correlation), followed by non-violent/degrading pornography usage (i.e., moderate and positive correlation), and lastly, non-violent/non-degrading pornography usage (i.e., small and negative correlation). This is consistent with researchers that have found a higher correlation with aggression for use of violent pornography compared to usage of non-violent pornography (Hald et al., 2010; Wright et al., 2016). Taken together, the correlational and regression results indicate that explicitly violent pornographic content is a particularly potent correlate and predictor of CDA perpetration, while content that is implicitly aggressive and degrading or not at all aggressive nor degrading, may have no or a weaker relationship with aggression.

Consistent with prior research (Buzzell, 2005; Carrol et al., 2008), my study also found that pornography usage is highly prevalent among emerging adults, with a high proportion (80%) of participants reporting consuming overall/general pornography, including 100% of men and 67% of women reporting some frequency level of consumption. These consumption rates are similar to those of past studies that include emerging adult samples (Ezzell et al., 2020; Hald, 2006).

Gender differences in pornography usage were also consistent with prior research. Males reported consuming overall/general pornography, violent/degrading, and non-violent/degrading pornographic content significantly more frequently than females. This is generally consistent with past studies that have found that males report being more accepting of pornography and consuming pornography significantly more frequently than women (Carroll et al., 2008; Ezzell et al., 2020), as well as with findings that males are more likely to report usage of violent pornography (Rostad et al., 2019),

are more attracted to sexual and violent media, and are more accepting of sexually violent media than females (Emmers-Sommer et al., 2006). Consistent with research indicating that women prefer more softcore and non-violent pornography compared to men (Hald, 2006), women in this study were found to consume non-violent/non-degrading pornography significantly more frequently than men.

This study identifies content non-specific and content-specific pornographic media—located in the macro-system of Bronfenbrenner’s ecological model that communicates societal sexual attitudes and expectations to consumers—as correlates of emerging adults’ sexual CDA perpetration, and highlights violent/degrading pornography usage as an important predictor/risk factor for perpetration that, among many other potential risk/protective factors located in various systems, contributes to perpetration behaviours. Overall, study findings highlighting significant correlations for all pornography variables with sexual CDA perpetration, along with violent/degrading usage as a significant predictor of perpetration, are consistent with past research that has documented a relationship among pornography use, sexting behaviours, technology-based sexual coercion, and the perpetration of offline sexual and dating aggression among young people (Ferguson & Hartley, 2020; Jongsma, 2019; Rodenhizer & Edwards, 2019; van Oosten & Vandenbosch, 2020; Wright et al., 2016). Taken together, these findings, along with the high rate of pornography usage among study participants, support the notion that pornographic media can play an important role in the sexual education of emerging adults and potentially serve as an important source of information about acceptable behaviour in sexual and romantic relationships (Quadara et al., 2017; Owens et al., 2012). My study thus adds to the scarce research examining the relation between pornography usage and sexual CDA perpetration. More specifically, it adds to the current CDA literature by suggesting that consumption of violent/degrading pornography is an important predictor of emerging adults’ perpetration of sexual CDA, and that pornography usage, including of varying pornographic content types, is a significant correlate of

perpetration, extending findings beyond offline sexual and dating aggression. The present study also furthers understandings regarding the differential relationship with aggression for different pornography content types, suggesting that usage of violent/degrading pornography might be more detrimental and have a greater impact on sexual CDA perpetration than consumption of either non-violent/degrading pornography and non-violent/non-degrading pornography.

Peer Factors and Sexual CDA

Out of all the peer variables assessed, only friendship quality emerged as a significant predictor of sexual CDA perpetration. Consistent with hypotheses, emerging adults with higher quality friendships (i.e., higher levels of social support, lower levels of negative interactions) were less likely to report CDA perpetration compared to adults with lower quality friendships (i.e., lower levels of social support, higher levels of negative interactions). In particular, individuals with higher levels of negative interactions within their friendships were nearly six times more likely to perpetrate than adults with lower levels of friendship negative interactions. Individuals with higher levels of social support within friendships were significantly (.31 times) less likely to report perpetration compared to individuals with lower levels of friendship social support.

These significant findings for friendship quality are consistent with past studies that support a negative predictive relationship between friendship quality and the perpetration of CDA and offline dating aggression among adolescents and emerging adults (e.g., Foshee et al., 2013; Linder & Collins, 2005; Richards et al., 2014; Schacter et al., 2019; Vagi et al., 2013; Villora et al., 2019). In line with social cognitive theory, emerging adults with higher quality peer relationships may be less likely to perpetrate dating aggression because these relationships provide them with the opportunity to learn and practice skills (e.g., conflict resolution, communication, and perspective-taking skills) that are important

for maintaining healthy romantic relationships, and that are then transferred to and modeled in their relationships with a romantic partner (Connolly & Goldberg, 1999).

Meanwhile, contrary to hypotheses, perceived peer perpetration of dating aggression and perceived peer attitudes toward dating aggression did not significantly predict the probability of self-reported CDA perpetration after controlling for other predictors in the model. Notably, however, although not statistically significant, the relation between each of peer dating aggression and peer attitudes with CDA perpetration were in the expected positive direction. These insignificant findings are inconsistent with previous research that has documented a significant predictive relationship between peer dating aggression perpetration with one's own perpetration of CDA (Caridade & Braga, 2020; Cutbush et al., 2010; Peskin et al., 2017) and offline dating aggression (Arriaga & Foshee, 2004; Beckmann et al., 2019; Cochran et al., 2017; Foshee et al., 2013; Foshee et al., 2010; Minter, 2014), as well as with studies that have found a significant predictive relation between perceived peer attitudes toward dating aggression with self-reported perpetration of CDA (Caridade & Braga, 2020; Schell, 2018; Van Ouytsel et al., 2020) and offline dating aggression (Cochran et al., 2017). These insignificant findings that are inconsistent with past research might, in part, be attributed to methodological differences between this and previous studies.

Notably, although friendship quality was identified as the only peer-related significant predictor of sexual CDA perpetration, all of the assessed peer variables were significantly correlated with perpetration, with strong correlations found for the friendship quality measures and moderate associations for the peer perpetration and peer attitudes variables. As expected, and consistent with regression results, social support was negatively correlated with perpetration, while negative interactions showed a positive correlation. Despite not emerging as significant predictors of perpetration, consistent with prior research (Arriaga & Foshee, 2004; Bartholomew et al., 2013; Beckmann et al., 2019; Cochran

et al., 2017; Cutbush et al., 2010; Peskin et al., 2017; Schell, 2018; Van Ouytsel et al., 2020), both perceived peer perpetration of dating aggression and perceived peer attitudes toward dating aggression were positively correlated with CDA perpetration; in particular, self-reported perpetration was associated with having at least one friend who perpetrated dating aggression, and perpetrators reported higher mean peer attitudes tolerant of dating aggression compared to non-perpetrators. These findings can be explained via the lens of social cognitive theory, which suggests that prior socialization experiences with aggressive peers who have aggression-tolerant attitudes might contribute to learning aggressive behaviours in the peer context that are then modelled in romantic relationships.

This study thus identifies multiple peer influences (i.e., peer perpetration, peer attitudes, friendship quality) located in the micro-system of Bronfenbrenner's ecological model as important correlates of emerging adults' sexual CDA perpetration, and highlights friendship quality as a key predictor/protective factor for perpetration. This study contributes to the scarce literature that has examined the relationship between friendship quality—an understudied aspect of the peer context—and CDA perpetration, extending findings beyond offline dating aggression among adolescents, and to the field of CDA among emerging adults. Given limited research examining peer-related protective factors associated with CDA perpetration, the current findings highlight friendship quality as a potential protective factor against the perpetration of sexual CDA. Results further add to the literature by revealing associations between multiple domains of the peer context (i.e., peer dating aggression perpetration, peer dating aggression attitudes, friendship quality) and CDA perpetration. Overall, study findings highlighting significant correlations for all peer variables with sexual CDA perpetration, along with friendship quality as a significant predictor of perpetration, support the notion that peers can play an important role in emerging adults' romantic relationships (Allen et al., 2019; Schacter et al., 2019) and aggressive behaviour (Gallupe et al., 2018; Thompson et al., 2019).

Mediating Role of Attitudes for Friendship Quality and Violent/Degrading Pornography

As hypothesized, participant's personal attitudes toward the acceptability of dating aggression mediated the relationship between both indicators of friendship quality with self-reported CDA perpetration, as well as the relationship between violent/degrading pornography use and perpetration. Mediation hypotheses for all other independent variables were not supported.

More specifically, with regards to friendship quality, attitudes partially mediated the relation between friendship social support and perpetration, as well as between friendship negative interactions and perpetration. Consistent with hypotheses, participants with higher friendship social support and lower levels of friendship negative interactions had less violence-tolerant attitudes, which subsequently decreased the likelihood of perpetration. The partial mediation effect observed for both indicators of friendship quality suggests that the relationship between friendship quality and self-reported CDA perpetration is only partly explained by participants' personal attitudes toward dating aggression, and that other variables likely help explain this relationship. In effect, friendship quality is both directly related to perpetration, as well as indirectly related to perpetration through dating aggression attitudes. In addition, although no known studies to date have examined the mediating role of attitudes toward dating aggression in the relationship between friendship quality and dating aggression perpetration, these results are in line with research that has found a link between higher quality friendships and less accepting attitudes toward CDA (Schell, 2018).

Meanwhile, participants' attitudes fully mediated the relationship between violent/degrading pornography consumption and perpetration, such that, consistent with hypotheses, individuals who more frequently consumed violent/degrading pornography had more violence-tolerant attitudes, which in turn increased the likelihood of perpetration. This full mediation effect suggests that the relationship between violent/degrading pornography usage and self-reported CDA perpetration is fully explained by

participants' personal attitudes toward dating aggression, and that violent/degrading pornography consumption does not have a direct relationship with CDA perpetration but rather is only indirectly related to perpetration by way of dating aggression attitudes. These mediation findings are consistent with research that has found a positive predictive relationship between increased pornography usage and more accepting attitudes toward dating violence (Rodenhizer & Edwards, 2019), as well as with studies that have documented dating-violence tolerant attitudes and sexual attitudes as mediating the relation between use of aggressive media and pornography with sexual behaviour and offline dating violence perpetration (Connolly et al., 2010; Friedlander et al., 2013; Wright, 2020).

That participants' personal attitudes toward dating aggression significantly predicted and showed a strong, positive correlation with CDA perpetration, is consistent with prior research that has documented attitudes tolerant of dating aggression as one of the most consistent predictors of dating aggression perpetration (e.g., Capaldi et al., 2012; Foshee et al., 2001), as well as with research that has documented a positive correlation and predictive relationship between more accepting attitudes toward dating violence and higher levels/an increased likelihood of CDA perpetration (Caridade & Braga, 2020; Peskin et al., 2017) and offline dating violence perpetration among young people (Courtain & Glowacz, 2018; Santana et al., 2006; Shen et al., 2012).

The study's significant mediation findings are well-explained by social cognitive theory, which suggests that exposure to violent and degrading pornographic media images foster and reinforce a positive attitude toward the use of aggression and increase individuals' beliefs that aggression is an acceptable way to resolve conflict, thus increasing the risk that individuals behave aggressively toward a romantic partner. In a similar way, higher-quality friendships comprising of more social support and less negative interactions might contribute to cognitions that discourage aggressive behaviour, as healthier friendships beget healthier relationship attitudes, which in turn decrease the risk of dating aggression

perpetration. The identification of aggression-tolerant attitudes as a mediator provides support for social cognitive theory as a useful framework for understanding how peer relationships and pornographic media may be linked to emerging adults' perpetration of sexual CDA.

These findings make an important contribution to the CDA literature by shedding light on the important role of attitudes as an individual-level mechanism through which usage of violent/degrading pornography and friendship quality are linked with emerging adults' CDA perpetration behaviours. Past research findings regarding the mediating role of attitudes in the relation between aggressive media usage and offline dating aggression are extended to CDA. This study highlights personal attitudes tolerant of dating aggression not only as an important micro-system level correlate and predictor/risk factor of emerging adults' sexual CDA perpetration, but also as a mediating variable that underlies the relations between friendship quality and violent/degrading pornography usage with perpetration.

Study Limitations and Recommendations for Future Research

As with all research, my study is subject to limitations related to its design, measurement, and sample that should be taken into consideration when interpreting the findings. A discussion of the most significant limitations and suggestions for future research follows.

One notable limitation is the study's use of a cross-sectional design, which limits inferences of causality. The dating violence literature emphasizes the importance of identifying causality to ensure effective prevention and intervention programming (Vagi et al., 2013). Although my study examined risk and protective factors of self-reported CDA perpetration, these factors are correlates and predictors of CDA perpetration and not necessarily causative factors. Although violent/degrading pornography consumption and friendship quality emerged as significant predictors of the likelihood of self-reported perpetration, we cannot infer that a causal relationship exists between these variables. This study's cross-sectional design made it difficult to determine the temporal direction of the relationship and

whether the use of violent/degrading pornography and friendship quality precede or are an outcome of CDA perpetration, or both. Thus, future research would benefit from using longitudinal designs to examine the temporal relationship between study predictors and CDA perpetration and to test mediational hypotheses.

Another important limitation revolves around measurement issues. The study utilized a survey methodology that relied solely on emerging adults' self-reports. The use of self-report measures might lend themselves to response bias, such that participants may have responded dishonestly or responded based on what they perceived to be socially desirable. Participants may have also under-estimated or overestimated accounts of perpetration based on issues with recall error. Future researchers could strive to increase the validity of information obtained by asking participants to keep logs of CDA incidents over a period of time.

Meanwhile, although, based on Green's (1991) rule of thumb, minimum sample size requirements for multiple regression were met and I had an adequate ratio of cases to predictors, much of the quantitative research on CDA uses larger sample sizes (e.g., Peskin et al., 2017; Temple et al., 2016; Zweig et al., 2013). Increased statistical power via a larger sample size can improve the accuracy of findings and allow for the examination of more complex models that incorporate a wider array of variables in addition to pornography use and peer factors. Given that CDA remains a burgeoning field of study, the field would benefit from further research that identifies additional key contextual and individual risk/protective factors for perpetration, with an emphasis on contextual factors (e.g., peer, family, community) and protective factors to address current gaps in the CDA literature (Caridade & Braga, 2020). Further research with larger samples could also be used to clarify relations with perpetration for usage of non-violent/degrading pornography and peer dating aggression, for which insignificant findings were especially surprising. In addition, with a larger sample size, models could

include multiple forms of CDA (e.g., sexual, psychological) and capture both perpetration and victimization experiences. This would allow for comparative analyses of risk/protective factors for different forms of CDA and for perpetration and victimization separately. Moreover, varying significant correlations among the majority of study predictors might have contributed to issues with multicollinearity, which can lead to unreliable and unstable estimates of regression coefficients, reduce the statistical power of the analysis, and increase the probability of Type II errors (Lavery et al., 2017). Independent variables that were moderately or highly correlated with CDA perpetration by themselves (e.g., gender, peer perpetration, peer attitudes) showed little predictive capability in the presence of other predictors in the multiple regression. Larger sample sizes can thus reduce the adverse effects of multicollinearity, reduce Type II error, and improve the precision of estimation of the regression coefficients (Tabachnick & Fidell, 2013).

Finally, data was collected through convenience sampling at an academic setting that was accessible to me and that was limited to students attending the university, including to students eligible to participate in the Educational Psychology Participant Pool. With regards to participant characteristics, the majority of participants were enrolled in the Faculty of Education and identified as White, heterosexual emerging adults from middle- to upper-class family backgrounds. All participants were, or had recently been, in a heterosexual dating relationship. Thus, it is unclear whether study findings can be generalized to emerging adults from more varied ethnic, socio-economic and educational backgrounds (e.g., adults not attending university), or to individuals in non-heterosexual dating relationships. Thus, future research would benefit from random sampling techniques and more varied samples to increase generalizability of findings to the larger emerging adult population.

Practical Implications

This research has important practical implications as it is critical to identify those risk/protective factors associated with CDA early in emerging adulthood, an important developmental period for learning patterns of interaction and for establishing healthy romantic and sexual relationships, to effectively prevent future abuse in later adult intimate relationships. Findings can inform the development of peer-focused and peer-facilitated dating aggression intervention and prevention programs for emerging adults that challenge attitudes tolerant of dating aggression, and that emphasize pornographic media literacy and the development of high-quality friendships. The sexual health education curriculum might also benefit from incorporating teachings and resources on sexual CDA, pornographic media literacy, development of attitudes toward sexual and dating aggression, and information relating to how peer relationships might contribute to sexual behaviour.

Pornographic media literacy programming can be used to challenge emerging adults' unrealistic attitudes about sex, unhealthy image of sexuality, and attitudes tolerant of sexual and dating aggression, as well as help them develop critical viewing skills to make them less vulnerable to the potentially harmful effects of violent and degrading pornography. Peer programming can provide young people with the opportunity to learn and practice skills that are important for maintaining healthy peer and romantic relationships (e.g., conflict resolution, navigating peer pressure, communication, identifying aggressive peer behaviours) to enhance friendship quality and reduce negative friendship interactions. In addition, given significant gender differences in reported rates of sexual CDA perpetration, programming initiatives could include education programs that target emerging adult men and women separately, as well as both genders simultaneously.

Moreover, given that this sample consisted of university students, school campuses may be ideal settings for programming aimed at raising awareness of the high prevalence of sexual CDA and at building healthy romantic and sexual relationships among emerging adults.

Finally, findings also have policy implications for the development of pro-social media content that promotes gender equitable attitudes, non-aggressive conflict resolution, and healthy romantic relationships among emerging adults. Policies that allow for more strict regulation of pornographic sites, especially violent and degrading pornographic content that can reinforce aggression-tolerant attitudes, would be beneficial.

Conclusion

In conclusion, findings from the current study highlight the relationship between content non-specific and content-specific pornographic media and multiple domains of the peer context with sexual CDA perpetration among emerging adults. In particular, the study illuminated consumption of violent/degrading pornography as a significant predictor of, and potential risk factor for, self-reported perpetration of sexual CDA, such that more frequent consumption increased the likelihood of perpetration. Friendship quality was also identified as a significant predictor of, and potential protective factor for, CDA perpetration, wherein higher friendship quality (i.e., higher social support and lower negative interactions within friendships) decreased perpetration likelihood. Findings additionally revealed that use of violent/degrading pornography might be more detrimental and have a greater impact on sexual CDA perpetration than consumption of pornographic content that is implicitly violent and degrading and content that is neither violent nor degrading. This study further identified an important mediator or mechanism linking consumption of violent/degrading pornography and friendship quality with CDA perpetration, namely dating aggression-tolerant attitudes. New light was shed on various significant correlates of self-reported CDA perpetration, including consumption of content non-specific

and content-specific pornography, peer dating aggression perpetration, peer attitudes toward dating aggression, friendship quality, personal attitudes toward dating aggression, and gender.

This study thus provided new insights into the unexplored relationship between peer factors and pornographic media usage with sexual CDA perpetration among emerging adults. Findings add to the growing body of literature examining correlates and predictors or risk/protective factors of CDA perpetration, with a special focus on sexual CDA. This study particularly adds to the paucity of research that has examined background and protective factors associated with CDA perpetration, and it contributes to understandings of how violent/degrading pornography and indicators of friendship quality may be linked to perpetration behaviours. The present study also furthers understandings regarding the differential relationship with CDA perpetration for different pornography content types and suggests that the type of pornographic content may be an important factor to take into consideration when examining these relations.

Future research could extend findings from this study to longitudinal designs, and can build off the current findings by evaluating more complex models, using larger samples, that afford a deeper understanding of pornography consumption and peer risk/protective factors, as well as of additional contextual factors (e.g., family, community), for sexual CDA perpetration and the mechanisms that help explain these relations. By showing that sexual CDA is common among emerging adults, the findings of this study speak to the importance of encouraging prevention and intervention programming for sexual CDA perpetration, and of identifying predictors and risk/protective associated with CDA early in emerging adulthood to help prevent abuse in later adult romantic relationships.

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Table 1*Participant Characteristics*

Variable	<i>n</i>	%
Faculty		
Arts	19	12.8
Education	80	53.7
Engineering	21	14.1
Nursing	1	.7
Science	28	18.8
Total	149	100.0
Sexual Orientation		
Heterosexual	135	90.6
Bisexual	12	8.1
Other	2	1.3
Total	149	100.0
Ethnicity		
Caucasian/White/European Canadian	81	54.4
Black/African Canadian	3	2.0
Hispanic/Latino	4	2.7
Arab/Middle Eastern	4	2.7
East Asian/Pacific Islander	12	8.1
South Asian	10	6.7
Southeast Asian	12	8.1
First Nations/Indigenous/Aboriginal	8	5.4
Biracial/multi-racial	14	9.4
Other	1	.7
Total	149	100.0
Estimate Annual Income		
Under \$20,000	130	87.2
\$20,000 to \$39,999	15	10.1
\$40,000 to \$59,999	2	1.3
\$60,000 to \$79,999	1	.7
\$80,000 to \$99,999	0	0.0
\$100,000 or greater	1	.7
Total	149	100.0

Con't

Variable	<i>n</i>	%
Parents' Combined Income		
Under \$20,000	4	2.7
\$20,000 to \$39,999	6	4.0
\$40,000 to \$59,999	8	5.4
\$60,000 to \$79,999	32	21.5
\$80,000 to \$99,999	32	21.5
\$100,000 or greater	49	32.9
Don't know	18	12.1
Total	149	100.0
Relationship Status		
Casual/non-exclusive dating	12	8.1
Exclusive dating	40	26.8
In a serious, committed relationship	77	51.7
Cohabiting but not engaged	13	8.7
Engaged but not cohabiting	4	2.7
Engaged and cohabiting	3	2.0
Total	149	100.0
Relationship Duration		
Less than 2 months	18	12.1
2 months to less than 6 months	17	11.4
6 months to less than 1 year	30	20.1
1 year to less than 3 years	60	40.3
3 years to less than 5 years	18	12.1
5 years or more	6	4.0
Total	149	100.0
Sexually active with current/most recent partner?		
Yes	134	89.9
No	12	8.1
Prefer not to say	3	2.0
Total	149	100.0

Note. The most commonly endorsed response category is presented in bold font. % = percentage of total sample.

Table 2*Descriptive Statistics for Key Study Variables*

	Males (<i>n</i> = 57)	Females (<i>n</i> = 92)	Total (<i>n</i> = 149)
Variables	% (<i>n</i>)	% (<i>n</i>)	% (<i>n</i>)
Cyber dating aggression perpetration	74 (42) _a	18 (17) _b	40 (59)
Peer dating aggression (at least 1 friend perpetrating aggression)	74 (42) _a	48 (44) _b	58 (86)
Variables (range)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Overall/general pornography consumption (1-6)	4.11 (1.23) _a	2.13 (.99) _b	2.88 (1.45)
Violent/degrading pornography consumption (1-6)	2.93 (1.56) _a	1.21 (.50) _b	1.86 (1.33)
Non-violent/degrading pornography consumption (1-6)	3.37 (1.45) _a	1.45 (.71) _b	2.18 (1.41)
Non-violent/non-degrading pornography consumption (1-6)	1.70 (1.68) _a	2.72 (.97) _b	2.11 (1.29)
Attitudes toward dating aggression (1-5)	2.88 (1.20) _a	1.40 (.32) _b	1.97 (1.06)
Peer attitudes toward dating aggression (1-5)	2.97 (1.12) _a	1.65 (.53) _b	2.16 (1.03)
Friendship quality – Social support (1-5)	2.35 (.80)	3.63 (.73)	3.14 (.98)
Friendship quality – Negative interactions (1-5)	3.09 (1.00) _a	1.78 (.51) _b	2.28 (.97)

Note. Cyber dating aggression perpetration = items from sexual cyber dating abuse subscale (Zweig et al., 2013); Peer dating aggression = aggression perpetrated by male and female friends combined, items adapted from Arriaga and Foshee (2004); Pornography consumption variables = all items adapted from Hald (2006); Attitudes toward dating aggression = items adapted from four subscales of the Attitudes Toward Dating Violence Scales (Price et al., 1999); Peer attitudes toward dating aggression = items adapted from four subscales of the Attitudes Toward Dating Violence Scales (Price et al., 1999); Friendship quality = all items derived from the Network of Relationships Inventory-Relationship Qualities Version (Buhrmester & Furman, 2008).

^{a,b} Significant gender differences are indicated by different letter subscripts.

Table 3*Correlations Among Key Study Variables*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Cyber dating aggression	—										
2. Overall/general pornography	.33*	—									
3. Violent/degrading pornography	.67***	.39***	—								
4. Non-violent/degrading pornography	.36***	.41***	.43***	—							
5. Non-violent/non-degrading pornography	-.24***	.47***	-.14	.14	—						
6. Peer dating aggression	.31***	.18*	.31***	.25**	-.24**	—					
7. Peer attitudes	.37***	.27*	.45***	.41***	-.38***	.46***	—				
8. Friendship quality – Social support	-.63***	-.31***	-.41***	-.43***	.26**	-.28***	-.44***	—			
9. Friendship quality – Negative interactions	.66***	.25**	.43***	.48***	-.40***	.40***	.43***	-.36**	—		
10. Attitudes toward dating aggression	.68***	.26**	.42***	.40***	-.45***	.41***	.44***	-.47***	.48***	—	
11. Gender	-.55***	-.39***	-.47***	-.49***	.23**	-.25**	-.42***	.43***	-.45***	-.47***	—

Note. For cyber dating aggression, perpetrators have the highest coding; For peer dating aggression, having at least one friend that uses aggression toward a dating partner has the highest coding; For gender, females have the highest coding.

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

Table 4

Means and Standard Deviations for Continuous Independent Variables, Separately for Perpetrators and Non-Perpetrators

Variables (range)	Perpetrators (<i>n</i> = 59) <i>M</i> (<i>SD</i>)	Non-Perpetrators (<i>n</i> = 90) <i>M</i> (<i>SD</i>)
Overall/general pornography consumption (1-6)	3.49 (1.48)	2.49 (1.29)
Violent/degrading pornography consumption (1-6)	2.85 (1.59)	1.22 (.51)
Non-violent/degrading pornography consumption (1-6)	3.02 (1.58)	1.63 (.96)
Non-violent/non-degrading pornography consumption (1-6)	1.59 (1.24)	2.21 (1.26)
Attitudes toward dating aggression (1-5)	2.86 (1.19)	1.39 (.31)
Peer attitudes toward dating aggression (1-5)	2.96 (1.10)	1.63 (.52)
Friendship quality – Social support (1-5)	2.37 (.84)	3.64 (.70)
Friendship quality – Negative interactions (1-5)	3.08 (1.02)	1.76 (.45)

Note. Significant point-biserial correlations with CDA perpetration were found for all listed independent variables.

Table 5*Multiple Logistic Regression Model Predicting Likelihood of Perpetration*

Predictors	<i>B</i>	SE	Wald	<i>df</i>	<i>p</i>	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Overall/general pornography	.53	.41	1.69	1	.19	1.69	.77	3.76
Violent/degrading pornography	1.45	.25	34.29	1	< .001***	4.25	2.61	6.89
Non-violent/degrading pornography	1.15	.76	2.69	1	.10	3.48	.79	15.41
Non-violent/non-degrading pornography	-.38	.35	1.22	1	.27	.68	.35	1.35
Peer dating aggression	.23	.56	.18	1	.68	1.26	.43	3.75
Peer attitudes toward dating aggression	.74	.49	2.23	1	.14	2.10	.79	5.58
Friendship quality – Social support	-1.18	.42	8.17	1	.004**	.31	.14	.69
Friendship quality – Negative interactions	1.79	.55	10.77	1	.001**	5.99	2.06	17.44
Gender	.23	.85	.07	1	.79	1.25	.24	6.63
Constant	-1.92	1.92	1.01	1	.32	.15		

Note. Peer dating aggression is for individuals with friends who perpetrate dating aggression compared to individuals without perpetrating friends; Gender is for males compared to females.

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

Table 6

Summary of Results of Mediation Analyses for Violent/Degrading Pornography Use and Friendship Quality

Independent variable	Effect of IV on M (Path <i>a</i>)		Effect of M on DV (Path <i>b</i>)		Direct Effect (Path <i>c</i> ')		Indirect Effect			
	Estimate	<i>SE</i>	Estimate	<i>SE</i>	Estimate	<i>SE</i>	Estimate	Bootstrap <i>SE</i>	Bootstrap 95% CI Lower	Upper
Violent/degrading pornography	1.35***	.14	2.58***	.53	.81	.54	3.50	.89	2.26	5.74
Friendship quality – Social support	-.84***	.05	2.23***	.56	-.73*	.36	-1.88	.46	-3.00	-1.19
Friendship quality – Negative interactions	.97***	.04	2.04***	.59	1.35**	.49	1.98	.58	1.09	3.42

Note. IV = independent variable; M = mediator; DV = dependent variable; SE = standard error; CI = confidence interval; Results for paths *b* and *c*' and indirect effects are expressed on a log-odds metric.

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

Figure 1

Hypothesized Relationships Between Pornography Consumption and Peer Factors with Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression

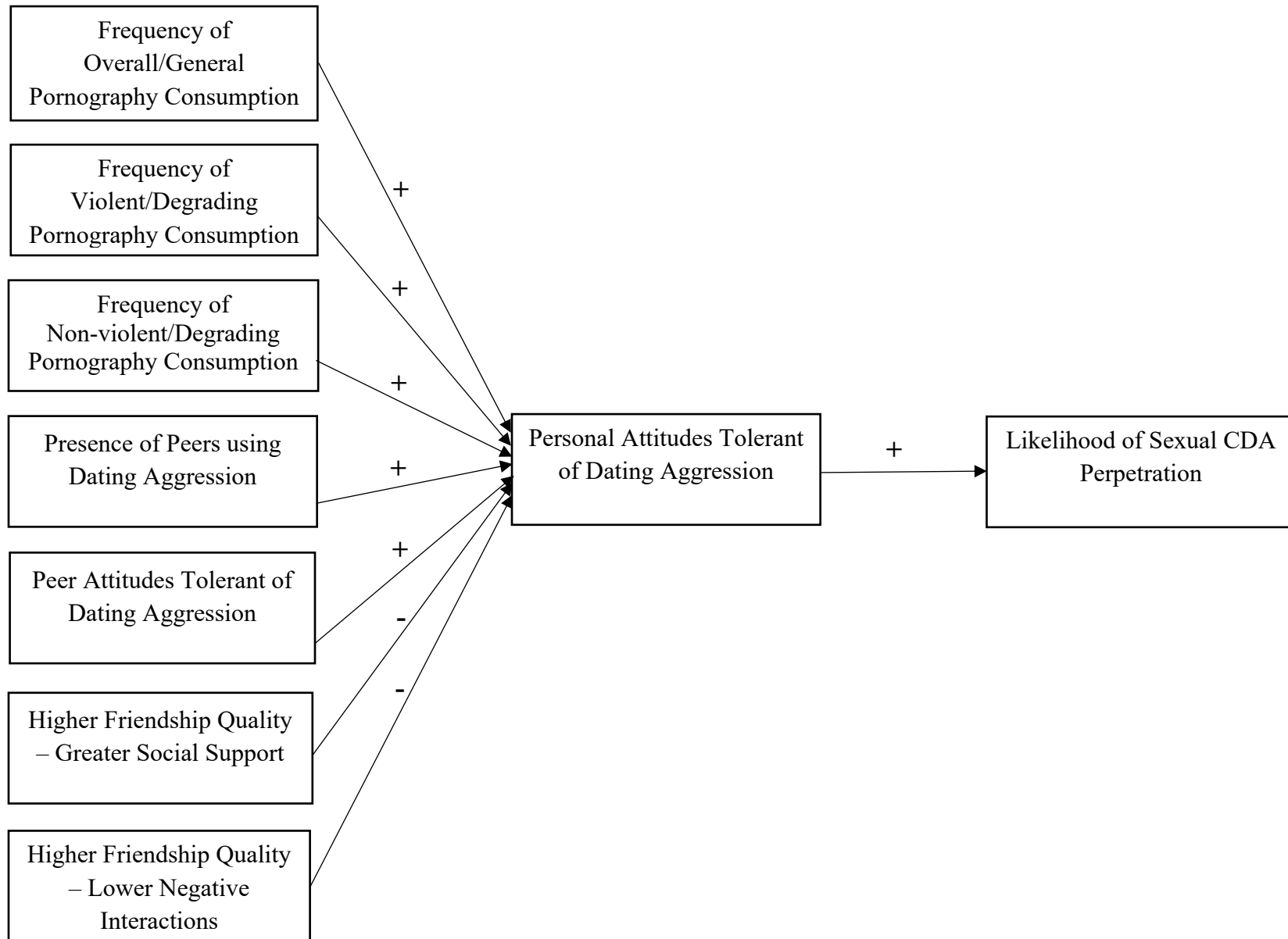
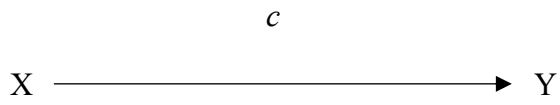


Figure 2

Baron and Kenny's (1986) Mediation Model



1. Total Effect: $c = ab + c'$
2. Direct Effect: $c' = c - ab$
3. Indirect Effect: $ab = c - c'$

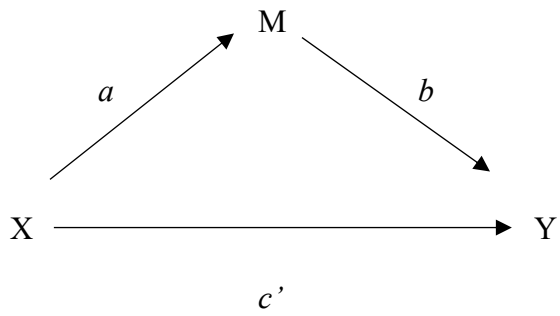
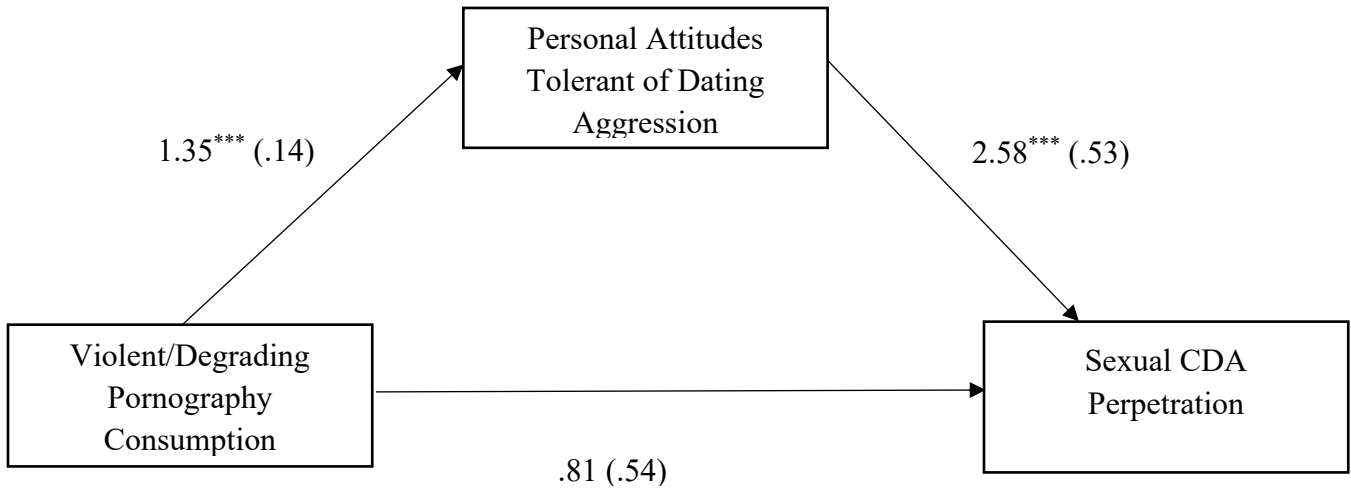


Figure 3

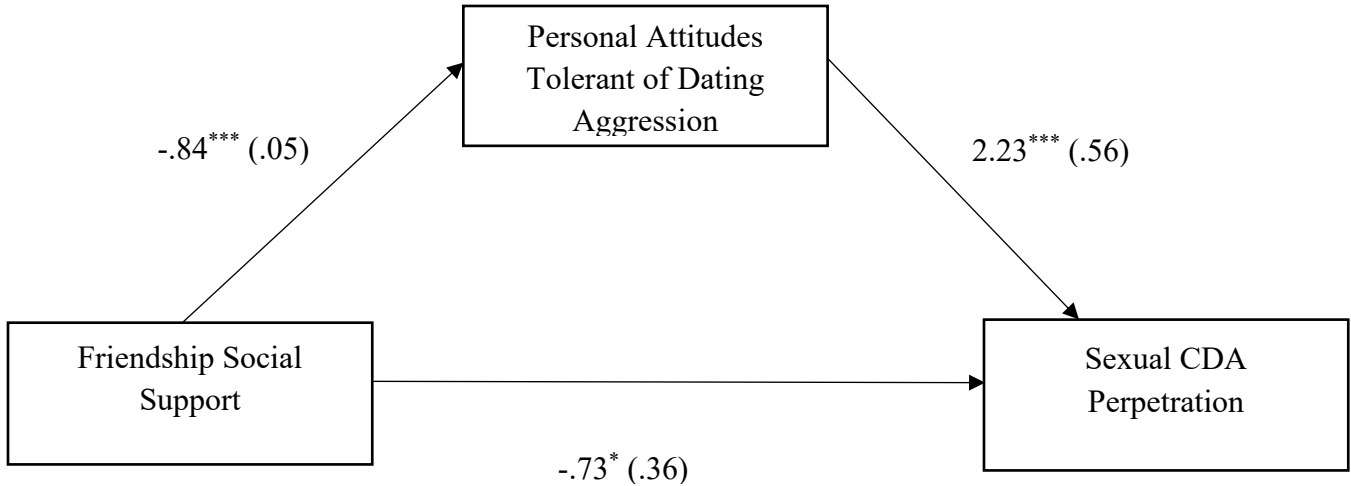
Unstandardized Regression Coefficients and Standard Errors for the Relationship Between Violent/Degrading Pornography Consumption and Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression



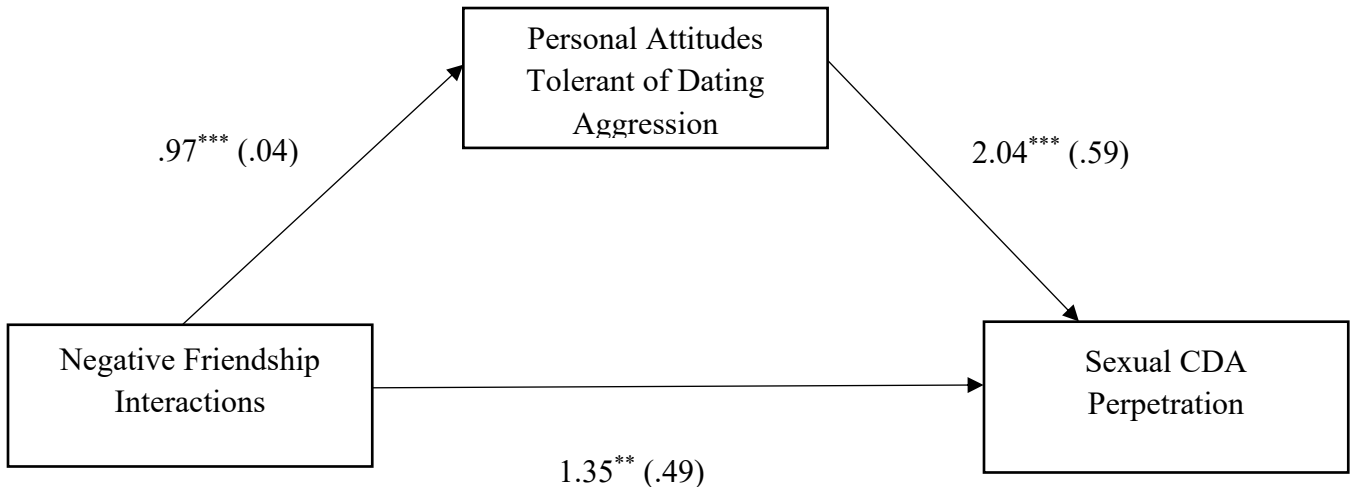
*** $p < .001$.

Figure 4

Unstandardized Regression Coefficients and Standard Errors for the Relationship Between Friendship Quality Indicators and Sexual CDA Perpetration, as Mediated by Personal Attitudes Tolerant of Dating Aggression



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



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

Appendix A

Notification Email of Study Activation

Hello,

You are receiving this email because you signed up for the online study entitled *Experiences with Dating, Pornography, and Friendships During Emerging Adulthood*.

This is just a notification email to inform you that the survey link is now active and you are able to complete the survey at this time. Please click on the survey website link provided in the Department of Educational Psychology Research Participation Credit system (uadpy.sona-systems.com) where you originally signed up for the study.

Please contact me if you have any questions or concerns. Thank you for your time and your interest in my project. Your participation is greatly appreciated.

Jessica

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Appendix B

Reminder Email for Study Completion

Hello,

You are receiving this email because you have not yet completed the online study entitled *Experiences with Dating, Pornography, and Friendships During Emerging Adulthood*.

This is just a friendly reminder email to complete the survey should you still be interested in participating in this research project. The deadline to participate is December 6, 2017. If you are still interested, please click on the survey website link provided in the Department of Educational Psychology Research Participation Credit system (uadpy.sona-systems.com) where you originally signed up for the study.

Please contact me if you have any questions or concerns. Thank you for your time and your interest in my project. Your participation is greatly appreciated.

Jessica

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Appendix C

Study Information and Consent Form

CONSENT TO PARTICIPATE IN RESEARCH

Study Title: Experiences with Dating, Pornography, and Friendships During Emerging Adulthood

You are asked to participate in a research study conducted by Jessica Sciaraffa, a graduate student in the Department of Educational Psychology in the Faculty of Education at the University of Alberta. Information gathered from this study will be used as part of her doctoral dissertation. This research will be supervised by Dr. Christina Rinaldi, a professor in the Department of Educational Psychology at the University of Alberta. This study has been cleared by the Research Ethics Board (REB) at the University of Alberta. You may wish to print this form for your records.

PURPOSE OF THE STUDY

The purpose of this study is to better understand young adults' dating behaviour. More specifically, this study will investigate how men's and women's use of pornography, attitudes, and peer relationships affect outcomes in their dating relationships.

ELIGIBILITY REQUIREMENTS

You are eligible to participate in this study if you are 18 to 25 years of age.

PROCEDURE

Your participation will involve completing an anonymous online survey on your own time and from a location of your choosing. The survey will ask you to provide some demographic information about yourself, as well as questions about your use of pornography, peer relationships, dating attitudes, and dating relationship behaviours. It is estimated that the survey will take approximately 1 hour to complete. It is recommended that you complete the survey in a private location where no one will be able to see your answers. Once you have completed the survey, you will be provided with debriefing information, including the explicit purpose of the study and a list of community resources and educational materials/online resources about dating relationships.

POTENTIAL RISKS AND DISCOMFORTS

There are some potential risks or discomforts that may come from your participation in this study that are important to note.

Due to the sensitive and personal nature of this study, during and/or following participation, you may experience negative thoughts or emotions (e.g., anxiety, sadness, embarrassment, uneasiness, anger) related to your experiences in your current or past dating relationships, friendships/peer relationships, and/or your experiences with pornography.

You may also experience distress or discomfort related to answering personal questions and disclosing private information about your use of pornography, peer relationships, attitudes about dating, and/or involvement in dating aggression.

Should you experience any form of distress during and/or following your participation in this study, please either contact someone from the community resource list that you can access at the bottom of this form and at the end of the study, or contact Jessica Sciaraffa, sciaraff@ualberta.ca, or Dr. Christina Rinaldi, crinaldi@ualberta.ca.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR SOCIETY

The benefits of participating in this project include: a) obtaining course credit for participation; b) raising your awareness of your own dating attitudes, pornography use, and experiences in peer and dating relationships; c) opportunity to engage in and contribute to dating research, knowledge, and issues that are of interest and pertinent to young adults; d) opportunity to learn how psychologists conduct research in the area of dating and romantic relationships; and e) direction to educational resources about dating relationships and to community/programming resources. It is possible, however, that, other than obtaining course credit, you may not experience any direct benefits from participating in this project.

This research may ultimately inform prevention and treatment programs aimed at improving dating relationships among young adults.

CONFIDENTIALITY AND ANONIMITY

Any information that is collected in connection with this study and that can be associated with you will remain private and confidential, and will not be disclosed. Your survey responses are anonymous. You will not be asked to give any identifying information on the survey that will allow us to connect you, personally, to your survey responses. Once the surveys have been submitted, your responses will not be attached to your name or student ID/email, and your survey responses will be stored in a non-identifiable data file with other participants' responses, separate from your personal information. This data file will be downloaded onto a secure and password-protected computer located in a locked cabinet, in a locked office, and accessed only by the researchers in this study. The results of the study may be presented at academic conferences and/or published in research journals, in which case your survey responses will be released only as summaries with other participants' responses.

ONLINE SURVEY PARTICIPATION

Because the Internet is not 100% secure in terms of privacy, please do not leave the partially completed survey open or unattended if completing it on a public computer. You may also want to clear the browser cache and page history after you have completed the survey.

RIGHTS OF PARTICIPANTS

Your participation in this study is completely voluntary. You may withdraw your consent and discontinue participation in the project at any time without penalty. If, at anytime, you wish to discontinue participation, you may click on the “X” at the top right-hand corner of your browser. Your survey responses will not be saved until you click the “Submit” button at the end of the survey. If you discontinue your participation in this study, you may wish to participate in other studies of your choosing available in the Educational Psychology Participant Pool, or you have the option of completing an alternate task as determined by the research participant pool coordinators.

You may also refuse to answer any questions you do not want to answer and still remain in the study. After completing the survey, you will have the option to withdraw your data so that your survey responses will not be used in this research and will be destroyed after you submit the survey, but you still receive course credit. You will be able to view the debriefing material prior to deciding whether you wish to withdraw your data and prior to submitting the survey. If you choose to withdraw your participation prior to reaching the end of the survey, you have the option of viewing the debriefing material by continuing to the end of the survey without completing any of the remaining items.

Because your survey responses are anonymous and will not be linked to any identifying/personal information you provide, you will not be able to request that your data be removed from this study once you have submitted your survey responses and have provided your permission for your data to be used in this research.

As a participant, you have the right to have all questions concerned with the study answered by the researcher, and you may request a summary or copy of the results of the study after its completion. At the end of the study, you will be given information about the explicit purpose of this study. If you have any questions regarding your rights as a participant, contact: Research Ethics Office, University of Alberta, Edmonton, Alberta, T6G 1K8; Phone: 780-492-0459; e-mail: reoffice@ualberta.ca

CONTACT INFORMATION

If you have any questions, comments, or concerns about this study, please feel free to contact:

Jessica Sciaraffa
Principal Investigator
E-mail: sciaraff@ualberta.ca

Dr. Christina Rinaldi
Project Supervisor
E-mail: crinaldi@ualberta.ca

SIGNATURE OF PARTICIPANT

I understand the information provided for the “Experiences with Dating, Pornography, and Friendships During Emerging Adulthood” study as described herein. My questions and/or concerns have been addressed to my satisfaction. I have been given the opportunity to print this form. It is recommended that you print this form for your records, otherwise you will not have the contact information for community resources/professional help below (or other details herein) should you want or need assistance.

By clicking the “Next” button and clicking through to the next page, you are indicating your informed consent to participate in this study.

COMMUNITY RESOURCES

You may feel upset, concerned, or distressed as a result of participating in the study. Below is a list of professional contacts and community resources to consider if you are interested in seeking help:

University of Alberta On-Campus Counselling and Clinical Resources:

- Clinical Services, Faculty of Education, University of Alberta, Phone: 790-492-3746
- Counselling and Clinical Services, University of Alberta, Phone: 780-492-5205
- Sexual Assault Centre, University of Alberta, Phone: 780-492-9771, Email: sexualassaultcentre@ualberta.ca

Domestic, Family, and Relationship Violence Community Resources

- Edmonton Violence Prevention Centre, Phone: 780-439-4635, Website: <http://www.edmontonvpc.ca/>

Suicide Prevention Hotlines

- Canadian Association for Suicide Prevention. Please visit: <https://suicideprevention.ca/need-help/> - Provides a contact list of crisis centres and 24-hour crisis line services

Other Resources:

- 24-Hour Sexual Assault Crisis Line, Sexual Assault Centre of Edmonton, Phone: 780-423-4121
- Edmonton Psychologists Directory. <https://www.edmontonpsychdirectory.ca/> - Provides a list of registered psychologists/therapists in Edmonton

Appendix D

Debriefing Form

Thank you for participating in this study. We are interested in studying factors that are related to the perpetration of cyber aggression in dating relationships. In particular, we are focusing on how people's use of pornographic media, peer influences, and dating attitudes influence their likelihood of perpetrating dating aggression.

In completing this study, we hope to contribute to the literature with empirical data in the form of a publication and/or conference presentation. If you have any questions about the study, or want a summary of the results, you can contact the Principal Investigator, Jessica Sciaraffa, M.A., at sciaraff@ualberta.ca, or the Project Supervisor, Christina Rinaldi, Ph.D., at crinaldi@ualberta.ca.

To ensure that your responses to the online study questionnaires remain private, it is recommended that you take a moment to clear your web browser's cache and cookies. Steps to do so differ by web browser (e.g., Firefox, Chrome) and operating system (e.g., Windows, Mac). The following website provides detailed directions for a variety of browsers and operating systems:

<https://kb.wisc.edu/page.php?id=12384>

You may be feeling upset, concerned, or distressed as a result of participating in the study. Below is a list of professional contacts and community resources to consider if you are interested in seeking help:

University of Alberta On-Campus Counselling and Clinical Resources:

-Clinical Services, Faculty of Education, University of Alberta, Phone: 790-492-3746

-Counselling and Clinical Services, University of Alberta, Phone: 780-492-5205

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sexualassaultcentre@ualberta.ca

Domestic, Family, and Relationship Violence Community Resources

-Edmonton Violence Prevention Centre, Phone: 780-439-4635, Website: <http://www.edmontonvpc.ca/>

Suicide Prevention Hotlines

-Canadian Association for Suicide Prevention. Please visit: <https://suicideprevention.ca/need-help/> -

Provides a contact list of crisis centres and 24-hour crisis line services

Other Resources:

-24-Hour Sexual Assault Crisis Line, Sexual Assault Centre of Edmonton, Phone: 780-423-4121

-Edmonton Psychologists Directory. <https://www.edmontonpsychdirectory.ca/> - Provides a list of registered psychologists/therapists in Edmonton

You may also be interested in learning more about dating aggression. Below is a list of educational materials and online resources that provide information about dating, cyber, and relationship violence:

- “Dating Violence”. Alberta Human Services. <http://www.humanservices.alberta.ca/abuse-bullying/15695.html>
- “Dating Violence”. Royal Canadian Mounted Police. <http://www.rcmp-grc.gc.ca/cyccp-cpcj/violence/dv-vf/index-eng.htm>
- “Cyber Violence Against Women and Girls: A World-Wide Wake-up Call”. UN Broadband Commission. <http://www.broadbandcommission.org/Documents/reports/bb-wg-gender-discussionpaper2015-executive-summary.pdf>
- “Is this abuse? Sexting and texting”. Love is respect, Project of the National Domestic Violence Hotline. <http://www.loveisrespect.org/is-this-abuse/texting-sexting/>
- “Dating Violence”, Stop Violence Against Women. <http://www.domesticviolenceinfo.ca/article/dating-violence-213.asp>
- “Violence Against Women - Dating Violence”. Office on Women’s Health, U.S. Department of Health and Human Services. <https://www.womenshealth.gov/violence-against-women/types-of-violence/dating-violence.html>
- “Statistics: Teenage Dating Violence in Canada”. Far From the Heart. http://www.farfromtheheart.com/index_en.php?page=statistics

It is recommended that you print this form for your records, otherwise you will not have the educational materials or the contact information for community resources/professional help (or other details herein) should you want or need assistance.

Thank you for your participation!

Appendix E

Participant Characteristics Questionnaire

How old are you (in years)? ____

Are you male or female?

Male

Female

Other (please specify): ____

Are you currently enrolled as a student at the University of Alberta?

Yes

No

What faculty are you registered in at the University of Alberta? Please indicate: ____

Which sexual orientation best describes you?

Heterosexual (straight)

Gay/Lesbian

Bisexual

Other (please specify): ____

What ethnicity best describes you?

Caucasian/White/European Canadian

Black/African Canadian

Hispanic/Latino

Arab/Middle Eastern (e.g., Iranian, Egyptian, Palestinian, Turkish)

East Asian/Pacific Islander (e.g., Chinese, Japanese, Korean, Mongolian)

South Asian (e.g., Indian, Pakistani, Afghanistani, Sri Lankan)

Southeast Asian (e.g., Filipino, Vietnamese, Malaysian, Indonesian)

First Nations/Indigenous/Aboriginal

Biracial/multi-racial

Other (please specify): ____

What is your own yearly income?

Under \$20,000

\$20,000 to \$39,999

\$40,000 to \$59,999

\$60,000 to \$79,999

\$80,000 to \$99,999

\$100,000 or greater

What is your parents' combined yearly income (make your best estimate)?

- Under \$20,000
- \$20,000 to \$39,999
- \$40,000 to \$59,999
- \$60,000 to \$79,999
- \$80,000 to \$99,999
- \$100,000 or greater
- Don't know

Dating Relationship Characteristics

PLEASE NOTE: A "dating relationship" is defined as a relationship in which two individuals share an emotional, romantic, and/or sexual connection *beyond a friendship*, but they are *not legally married*. Individuals may be engaged or cohabiting with their dating partner.

I am:

- Currently in a dating relationship
- Not currently in a dating relationship, *but I have been* in a dating relationship within the past year
- Not currently in a dating relationship *and I have not been* in a dating relationship within the past year

For the following items, please answer in reference to your current dating partner. *If you are not currently in a dating relationship but have been in one within the past year, please answer in reference to your most recent dating partner.*

Dating relationship status/level of commitment:

How would you classify your relationship with your current or most recent dating partner?

- Casual/non-exclusive dating
- Exclusive dating
- In a serious, committed relationship
- Cohabiting but not engaged
- Engaged but not cohabiting
- Engaged and cohabiting

Duration/length of dating relationship:

- Less than 2 months
- 2 months to less than 6 months
- 6 months to less than 1 year
- 1 year to less than 3 years
- 3 years to less than 5 years
- 5 years or more

Type of dating relationship:

- Heterosexual (opposite-sex)
- Gay/lesbian (same-sex)
- Other: ____

How satisfied are/were you in your relationship with your current or most recent dating partner?

0	1	2	3	4	5	6	7	8
Not at all								Extremely
Satisfied								Satisfied

How much conflict is/was there in your relationship with your current or most recent dating partner?

0	1	2	3	4	5	6	7	8
None								An extreme amount

Is/was sex part of your relationship with your current or most recent dating partner?

Yes

No

Prefer not to say

Thank you for providing us with some background information.

Appendix F

Cyber Dating Aggression Perpetration

Zweig, J. M., Dank, M., Yahner, J., & Lachman, P. (2013). The rate of cyber dating abuse among teens and how it relates to other forms of dating violence. *Journal of Youth and Adolescence*, 42, 1063-1077. <https://doi.org/10.1007/s10964-013-9922-8>

Instructions: In the **past year**, how many times have you ever **done the following things** to the person that you currently are dating, or if you are not currently dating, the person you most recently dated?

When answering the questions below please:

Only include when you did it to him/her first. In other words, don't count it if you did it in self-defense.

Include when you did it in “play” or as a joke, and without the explicit intent to harm the other person.

Include acts you committed using various digital/electronic information and communication technologies and devices, including cell phones/texting, computers, and Internet communication via social networking sites (e.g., Facebook, Instagram, Twitter, Snapchat), e-mail, instant messaging/IM (e.g., Google Messenger), and chat rooms.

Sent him/her sexual photos or naked photos of myself that I knew he/she did not want
(0) Never, (1) Rarely, (2) Sometimes (3) Very often

Threatened him/her if (s)he didn't send a sexual or naked photo of himself/herself
(0) Never, (1) Rarely, (2) Sometimes (3) Very often

Pressured him/her to send a sexual or naked photo of himself/herself
(0) Never, (1) Rarely, (2) Sometimes (3) Very often

Sent him/her text messages, email, IM, chats, etc., to have sex or engage in sexual acts with me that I knew the person did not want to do
(0) Never, (1) Rarely, (2) Sometimes (3) Very often

Appendix G

Pornography Consumption

Definition of Pornography:

In the following, “pornography” refers to material:

1. That is designed to sexually arouse the consumer or enhance the consumer’s sexual feelings or thoughts, and that contains:
2. Nudity and exposure to clear and explicit sexual acts (e.g., vaginal intercourse, anal intercourse, oral sex, masturbation, bondage, sadomasochism, rape, urine sex, animal sex), and
3. Exposure to and/or description of the genitals/sexual organs

When answering the questions below, please refer to the above definition whenever the term ‘pornography’ is used.

Pornography does not include materials such as underwear/lingerie advertisements (e.g., Victoria Secret) or materials containing men and women posing or acting naked, unless these images portray clear and explicit sexual acts.

Also, in the following, please do not include exposure to pornography that you may have had in connection with formal or official sexual education, or random/unintentional exposure.

Below items adapted from Hald, G.M. (2006). Gender differences in pornography consumption among young heterosexual Danish adults. *Archives of Sexual Behavior*, 35, 577-585. <https://doi.org/10.1007/s10508-006-9064-0>

Overall/General Pornography Consumption Item:

Frequency of pornography consumption

On average, how often have you watched Internet pornography during the last 6 months?

- 1-Never
- 2-Less than once a month
- 3-1-2 times a month
- 4-1-2 times a week
- 5-3-5 times a week
- 6-More than 5 times a week

Content Specific Pornography Consumption Items:

Consumption of violent and degrading/objectifying pornography

On average, how often have you watched violent and degrading, dehumanizing, and/or objectifying pornography* on the Internet during the last 6 months?

- 1-Never
- 2-Less than once a month

- 3-1-2 times a month
- 4-1-2 times a week
- 5-3-5 times a week
- 6-More than 5 times a week

*Violent *and* degrading, dehumanizing, and/or objectifying pornography is defined as sexually explicit materials in which non-consensual, degrading, coercive, aggressive, and/or violent sexual relations and behaviours are explicitly portrayed. This includes portrayals of the following: rape/sexual assault, physical violence (e.g., hitting, slapping, punching), sadomasochism, bondage, sexual relations with someone who has been drugged/is intoxicated, self-abuse or self-mutilation, and images where no actual violence is occurring but the model appears to be suffering from the aftermath of violence/abuse.

Consumption of non-violent but degrading/objectifying pornography

On average, how often have you watched non-violent but degrading, dehumanizing, and/or objectifying pornography* on the Internet during the last 6 months?

- 1-Never
- 2-Less than once a month
- 3-1-2 times a month
- 4-1-2 times a week
- 5-3-5 times a week
- 6-More than 5 times a week

*Non-violent *but* degrading, dehumanizing, and/or objectifying pornography is defined as sexually explicit material without any overt/explicit non-consensual, coercive, aggressive, and/or violent content, but which nonetheless *implies* acts of submission, degradation, objectification, aggression, violence, and/or coercion by the positioning of the models, use of props, or display of unequal power relationships by differential dress, costuming, or positioning, or by setting of the viewer as voyeur (e.g., the model is engaged in some solitary activity and seems totally unaware or very surprised to find someone looking at him/her).

Consumption of non-violent and non-degrading/objectifying pornography

On average, how often have you watched non-violent and non-degrading, dehumanizing, and/or objectifying pornography* on the Internet during the last 6 months?

- 1-Never
- 2-Less than once a month
- 3-1-2 times a month
- 4-1-2 times a week
- 5-3-5 times a week
- 6-More than 5 times a week

*Non-violent and non-degrading, dehumanizing, and/or objectifying pornography is defined as sexually explicit material depicting explicitly consensual sexual relations, and that does not contain any overt or implied acts of submission, degradation, objectification, aggression, violence, and/or coercion, or display of unequal power relationships. This category has as its focus the depiction of mutually pleasurable sexual expression between two people who have enough power to be there by positive choice.

Appendix H

The Attitudes Toward Dating Violence Scales – Participants' Attitudes Toward Dating Aggression

Price, E.L., Byers, E.S., Belliveau, N., Bonner, R., Caron, B., Doiron, D., Greenough, J., Guerette-Breau, A., Hicks, L., Landry, A., Lavoie, B., Layden-Oreto, M., Legere, L., Lemieux, S., Lirette, M.-B., Maillet, G., McMullin, C., & Moore, R. (1999). The Attitudes Towards Dating Violence Scales: Development and initial validation. *Journal of Family Violence, 14*(4), 351-375. <https://doi.org/10.1023/A:1022830114772>

Instructions: The statements below describe attitudes toward a variety of behaviours in dating relationships which different people have. There are no right or wrong answers, only opinions. Therefore, it is very important that you answer each question honestly.

Please express your feelings about each statement by indicating whether you (1) Strongly disagree, (2) Mildly disagree, (3) Neither disagree nor agree, (4) Mildly agree, or (5) Strongly agree.

Attitudes Towards Male Psychological Dating Violence Scale (ATMDV-Psyc)

1. A guy should not insult his girlfriend.*
2. A guy should not tell his girlfriend what to do.*
3. A girl should ask her boyfriend first before going out with her friends.
4. Relationships always work best when girls please their boyfriends.
5. There is never a reason for a guy to threaten his girlfriend.*
6. Sometimes guys just can't help but swear at their girlfriends.
7. A girl should always change her ways to please her boyfriend.
8. A girl should always do what her boyfriend tells her to do.
9. A guy does not need to know his girlfriend's every move.*
10. There is never a good enough reason for a guy to swear at his girlfriend.*
11. It is understandable when a guy gets so angry that he yells at his girlfriend.
12. It is o.k. for a guy to bad mouth his girlfriend.
13. There is never a reason for a guy to yell and scream at his girlfriend.*
14. A girl should not see her friends if it bothers her boyfriend.
15. It is important for a girl to always dress the way her boyfriend wants.

Attitudes Towards Male Sexual Dating Violence Scale (ATMDV-Sex)

1. When a guy pays on a date, it is O.K. for him to pressure his girlfriend for sex.
 2. Guys do not own their girlfriends' bodies.*
 3. When guys get really sexually excited, they cannot stop themselves from having sex.
 4. Guys should never get their girlfriends drunk to get them to have sex.*
 5. A guy should not touch his girlfriend unless she wants to be touched.*
 6. It is alright for a guy to force his girlfriend to kiss him.
 7. Often guys have to be rough with their girlfriends to turn them on.
 8. To prove her love, it is important for a girl to have sex with her boyfriend.
 9. A girl who goes into a guy's bedroom is agreeing to sex.
-

10. It is no big deal to pressure a girl into having sex.
11. It is alright to pressure a girl to have sex if she has had sex in the past.
12. After a couple is going steady, the guy should not force his girlfriend to have sex.*

Attitudes Towards Female Psychological Dating Violence Scale (ATFDV-Psyc)

1. There is no excuse for a girl to threaten her boyfriend.*
2. There is never a good enough reason for a girl to swear at her boyfriend.*
3. Girls have a right to tell their boyfriends how to dress.
4. A guy should always do what his girlfriend tells him to do.
5. If a girl yells and screams at her boyfriend it does not really hurt him seriously.
6. Girls have a right to tell their boyfriends what to do.
7. It is important for a guy to always dress the way his girlfriend wants.
8. Sometimes girls just can't help but swear at their boyfriends.
9. A guy should always ask his girlfriend first before going out with his friends.
10. It is O.K. for a girl to bad mouth her boyfriend.
11. It is understandable when a girl gets so angry that she yells at her boyfriend.
12. Sometimes girls have to threaten their boyfriends so that they will listen.
13. A girl should not control what her boyfriend wears.*

Attitudes Towards Female Sexual Dating Violence Scale (ATFDV-Sex)

1. A girl should not touch her boyfriend unless he wants to be touched.*
2. There is nothing wrong with a guy changing his mind about having sex.*
3. A guy should breakup with his girlfriend if she has forced him to have sex.*
4. A girl should only touch her boyfriend where he wants to be touched.*
5. A guy who goes into a girl's bedroom is agreeing to sex.
6. It is alright for a girl to force her boyfriend to kiss her.
7. Girls should never get their boyfriends drunk to get them to have sex.*
8. If a guy says "yes" to sex while drinking, he is still allowed to change his mind.*
9. After a couple is going steady, the girl should not force her boyfriend to have sex.*
10. Girls should never lie to their boyfriends to get them to have sex.*
11. To prove his love, it is important for a guy to have sex with his girlfriend.
12. It is O.K. for a girl to say she loves a guy to get him to have sex.

*Scoring is reversed for these items.

Appendix I

Perceived Peer Dating Aggression Perpetration

Below items adapted from Arriaga, X. B., & Foshee, V. A. (2004). Do adolescents follow in their friends', or their parents', footsteps? *Journal of Interpersonal Violence*, 19(2), 162-184. <https://doi.org/10.1177/0886260503260247>

How many of your *male* friends are currently or have been aggressive toward their *dating partner(s)* within the past 12 months?

IMPORTANT: Please base your response on your observation of your friends' behaviour AND your friends' reports of behaving aggressively toward their dating partner(s). Select "None" if you have not seen any of your male friends behave aggressively toward their dating partner(s), and if none of your male friends have told you that they have behaved aggressively toward their dating partner(s).

Also, when answering this question, please take into consideration various forms of dating aggression, including physical (e.g., hitting), psychological/verbal (e.g., yelling, threats, constant monitoring, spreading rumours), and sexual (e.g., pressuring partner to have sex) dating aggression, perpetrated in person and through the use of technology (e.g., texting, e-mail, social networking sites).

- 1-None
- 2-One
- 3-Two or three
- 4-Four or more

How many of your *female* friends are currently or have been aggressive toward their *dating partner(s)* within the past 12 months?

IMPORTANT: Please base your response on your observation of your friends' behaviour AND your friends' reports of behaving aggressively toward their dating partner(s). Select "None" if you have not seen any of your female friends behave aggressively toward their dating partner(s), and if none of your female friends have told you that they have behaved aggressively toward their dating partner(s).

Also, when answering this question, please take into consideration various forms of dating aggression, including physical (e.g., hitting), psychological/verbal (e.g., yelling, threats, constant monitoring, spreading rumours), and sexual (e.g., pressuring partner to have sex) dating aggression, perpetrated in person and through the use of technology (e.g., texting, e-mail, social networking sites).

- 1-None
- 2-One
- 3-Two or three
- 4-Four or more

Appendix J

The Attitudes Toward Dating Violence Scales – Perceived Peer Attitudes Toward Dating Aggression

Adapted from Price, E.L., Byers, E.S., Belliveau, N., Bonner, R., Caron, B., Doiron, D., Greenough, J., Guerette-Breau, A., Hicks, L., Landry, A., Lavoie, B., Layden-Oreto, M., Legere, L., Lemieux, S., Lirette, M.-B., Maillet, G., McMullin, C., & Moore, R. (1999). The Attitudes Towards Dating Violence Scales: Development and initial validation. *Journal of Family Violence, 14*(4), 351-375.
<https://doi.org/10.1023/A:1022830114772>

Instructions: Please rate the statements below based on how you think your friends would respond.

- (1) Strongly disagree
- (2) Mildly disagree
- (3) Neither disagree nor agree
- (4) Mildly agree
- (5) Strongly agree

Attitudes Towards Male Psychological Dating Violence Scale (ATMDV-Psyc)

1. A guy should not insult his girlfriend.*
2. A guy should not tell his girlfriend what to do.*
3. A girl should ask her boyfriend first before going out with her friends.
4. Relationships always work best when girls please their boyfriends.
5. There is never a reason for a guy to threaten his girlfriend.*
6. Sometimes guys just can't help but swear at their girlfriends.
7. A girl should always change her ways to please her boyfriend.
8. A girl should always do what her boyfriend tells her to do.
9. A guy does not need to know his girlfriend's every move.*
10. There is never a good enough reason for a guy to swear at his girlfriend.*
11. It is understandable when a guy gets so angry that he yells at his girlfriend.
12. It is o.k. for a guy to bad mouth his girlfriend.
13. There is never a reason for a guy to yell and scream at his girlfriend.*
14. A girl should not see her friends if it bothers her boyfriend.
15. It is important for a girl to always dress the way her boyfriend wants.

Attitudes Towards Male Sexual Dating Violence Scale (ATMDV-Sex)

1. When a guy pays on a date, it is O.K. for him to pressure his girlfriend for sex.
 2. Guys do not own their girlfriends' bodies.*
 3. When guys get really sexually excited, they cannot stop themselves from having sex.
 4. Guys should never get their girlfriends drunk to get them to have sex.*
 5. A guy should not touch his girlfriend unless she wants to be touched.*
 6. It is alright for a guy to force his girlfriend to kiss him.
 7. Often guys have to be rough with their girlfriends to turn them on.
 8. To prove her love, it is important for a girl to have sex with her boyfriend.
-

9. A girl who goes into a guy's bedroom is agreeing to sex.
10. It is no big deal to pressure a girl into having sex.
11. It is alright to pressure a girl to have sex if she has had sex in the past.
12. After a couple is going steady, the guy should not force his girlfriend to have sex.*

Attitudes Towards Female Psychological Dating Violence Scale (ATFDV-Psyc)

1. There is no excuse for a girl to threaten her boyfriend.*
2. There is never a good enough reason for a girl to swear at her boyfriend.*
3. Girls have a right to tell their boyfriends how to dress.
4. A guy should always do what his girlfriend tells him to do.
5. If a girl yells and screams at her boyfriend it does not really hurt him seriously.
6. Girls have a right to tell their boyfriends what to do.
7. It is important for a guy to always dress the way his girlfriend wants.
8. Sometimes girls just can't help but swear at their boyfriends.
9. A guy should always ask his girlfriend first before going out with his friends.
10. It is O.K. for a girl to bad mouth her boyfriend.
11. It is understandable when a girl gets so angry that she yells at her boyfriend.
12. Sometimes girls have to threaten their boyfriends so that they will listen.
13. A girl should not control what her boyfriend wears.*

Attitudes Towards Female Sexual Dating Violence Scale (ATFDV-Sex)

1. A girl should not touch her boyfriend unless he wants to be touched.*
2. There is nothing wrong with a guy changing his mind about having sex.*
3. A guy should breakup with his girlfriend if she has forced him to have sex.*
4. A girl should only touch her boyfriend where he wants to be touched.*
5. A guy who goes into a girl's bedroom is agreeing to sex.
6. It is alright for a girl to force her boyfriend to kiss her.
7. Girls should never get their boyfriends drunk to get them to have sex.*
8. If a guy says "yes" to sex while drinking, he is still allowed to change his mind.*
9. After a couple is going steady, the girl should not force her boyfriend to have sex.*
10. Girls should never lie to their boyfriends to get them to have sex.*
11. To prove his love, it is important for a guy to have sex with his girlfriend.
12. It is O.K. for a girl to say she loves a guy to get him to have sex.

*Scoring is reversed for these items.

Appendix K

Network of Relationships Inventory, Relationship Qualities Version – Friendship Quality

Buhrmester, D. & Furman, W. (2008). *The Network of Relationships Inventory: Relationship Qualities Version*. Unpublished measure, University of Texas at Dallas.

Instructions: The questions below ask about your relationship with your **best/closest friends**. Note that friends cannot be siblings, relatives, or romantic/dating partners. Please rate each item from (1) Never or hardly at all, (2) Seldom or not too much, (3) Sometimes or somewhat, (4) Often or very much, to (5) Always or extremely much.

Companionship (COM)

- 1 How often do you spend fun time with your friends?
- 11 How often do you and your friends go places and do things together?
- 21 How often do you play around and have fun with your friends?

Intimate Disclosure (DIS)

- 2 How often do you tell your friends things that you don't want others to know?
- 12 How often do you tell your friends everything that you are going through?
- 22 How often do you share secrets and private feelings with your friends?

Pressure (PRE)

- 3 How often do your friends push you to do things that you don't want to do?
- 13 How often do your friends try to get you to do things that you don't like?
- 23 How often do your friends pressure you to do the things that they want?

Satisfaction (SAT)

- 4 How happy are you with your relationship with your friends?
- 14 How much do you like the way things are between you and your friends?
- 24 How satisfied are you with your relationship with your friends?

Conflict (CON)

- 5 How often do you and your friends disagree and quarrel with each other?
- 15 How often do you and your friends get mad at or get in fights with each other?
- 25 How often do you and your friends argue with each other?

Emotional Support (SUP)

- 6 How often do you turn to your friends for support with personal problems?
- 16 How often do you depend on your friends for help, advice, or sympathy?
- 26 When you are feeling down or upset, how often do you depend on your friends to cheer things up?

Criticism (CRI)

- 7 How often do your friends point out your faults or put you down?
- 17 How often do your friends criticize you?
- 27 How often do your friends say mean or harsh things to you?

Approval (APP)

- 8 How often do your friends praise you for the kind of person you are?
- 18 How often do your friends seem really proud of you?
- 28 How much do your friends like or approve of the things you do?

Dominance (DOM)

- 9 How often do your friends get their way when you do not agree about what to do?
- 19 How often do your friends end up being the ones who make the decisions for both of you?
- 29 How often do your friends get you to do things their way?

Exclusion (EXC)

- 10 How often do your friends *not* include you in activities?
- 20 How often does it seem like your friends ignore you?
- 30 How often does it seem like your friends *do not* give you the amount of attention that you want?