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The Role of Friends in Cyber Dating Abuse:
An Examination of Attitudes, Normative Beliefs and Reinforcement Behaviours

by

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Honours Thesis

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Abstract

The peer context has been examined in relation to dating violence research with consistent suggestions that information learned among peers can easily extend to a dating context. This study sought to examine how friends influence the perpetration of cyber dating abuse (CDA), with a focus on measuring attitudes, normative beliefs, and reinforcement behaviours.

Participants included 101 university undergraduate students ranging from 18 to 25 years or older ($M = 19.43$, $SD = 1.77$), with 83 females and 18 males, who had dating experience in the last 6 months. Online self-report questionnaires measured friendship quality, CDA behaviours, friend reinforcement of CDA, CDA attitudes and perceived friend attitudes, as well as normative CDA beliefs. Regression analyses showed that friend presence, belief in CDA norms, and individual cyberbullying-tolerant attitudes predicted CDA, with friend presence predicting CDA above and over other individual variables. Results draw attention to the importance of including peers in further CDA research.

The Role of Friends in Cyber Dating Abuse:

An Examination of Attitudes, Normative Beliefs and Reinforcement Behaviours

Among emerging adults, dating relationships are a common and positive aspect of healthy development. Indeed, reports have indicated that over 75% of emerging adults engage in a dating relationship by the time they graduate from high school (Smetana, Campione-Barr, & Metzger, 2006). Within dating relationships, however, there are also negative aspects to consider such as dating violence, which can begin in early adolescence (Peskin et al., 2016). Reese-Weber (2008) reported on results from multiple studies that found dating violence perpetration rates to be anywhere between 23% and 38% among emerging adults, depending on how dating violence is defined. There are various kinds of dating violence, including physical assault, verbal or relational attacks, and the emerging form of cyber dating abuse. Cyber dating abuse (CDA) occurs whenever an individual uses new technologies, such as mobile phones or social media, to control, threaten, monitor, or manipulate their dating partner (Borrajo, Gámez-Guadix, & Calvete, 2015a). Within CDA, friendships can have a positive or negative influence. Friendships have been shown to affect offline dating abuse in various ways, including friend attitudes (Hopper, 2011) and differences in friendship quality (Foshee et al., 2013a). Simply having a friend who engages in dating harassment or violence has been associated with an increased risk of engaging in these behaviours personally (Foshee et al., 2013a).

Given the ever-increasing usage of social media, and with it the rates of online harassment and abuse, it is important to research specifically about CDA. Both offline dating violence and CDA are linked to numerous negative outcomes, including suicidal ideation, drug and alcohol use, depression, antisocial behaviours, internalizing problems, and losing close friends (Exner-Cortens, Eckenrode, & Rothman, 2013; Foshee, Reyes, Gottfredson, Chang, &

Ennett, 2013b). Previous research has focused largely on understanding predictors of offline dating violence, with some studies done on how peers influence this phenomenon (Arriaga & Foshee, 2004; Ellis, Chung-Hall, & Dumas, 2013; Foshee et al., 2013a; Hopper, 2011). Offline dating violence research has also focused on the role of violence-tolerant attitudes (Josephson & Proulx, 2008) and normative dating violence beliefs (Reyes et al., 2015) on both the individual and peer group level (Foshee et al., 2013a; Hopper, 2011). Other relevant peer context research has focused on peer reinforcement variables in predicting cyberbullying (Barlett & Gentile, 2012). Although cyberbullying and some offline dating violence data may translate to the online dating context, it is important to fill in the gaps and to research specifically about CDA and the peer context here. In the current study, the goal was to investigate how friends influence dating relationships within an online context, specifically with a focus on the perpetration of CDA behaviours, and to examine how both individual and perceived friend attitudes, individual normative beliefs, and friend reinforcement behaviours affect CDA.

Background Theory on Attitudes and Normative Beliefs

CDA is a different type of abuse than physical, sexual, or verbal abuse, which requires its own focused research. In the hopes of working toward stopping dating violence of any kind, research must be done on the reasons why people are engaging in dating violence. Although there is much overlap between the various types of abuse, each one has its own set of risks. CDA can be especially harmful for many reasons, including the added aspect of online anonymity and less visible victimization, and that cyber victims are constantly connected to the site of abuse (Patchin & Hinduja, 2010). People can monitor and abuse their partners completely anonymously, such as leaving hurtful comments on a partner's social media post under a fake account, which makes the victimization of that partner much less visible compared to something

like physical assault. These victims then may suffer additional distress because they always have their mobile phone on them with constant access to their social media, which leads to more chances of further victimization to occur.

Additionally, research on CDA specifically shows that CDA victimization is associated with lower self-esteem, higher depressive symptoms, higher anger/ hostility levels, binge drinking, and smoking marijuana (Van Ouytsel, Ponnet, Walrave, & Temple, 2016; Zweig, Lachman, Yahner, & Dank, 2014). These aspects add to the importance in researching CDA and why people engage in it. Since most people are constantly connected to sites of potential cyber abuse, commonly through smartphones, friends could have a significant role here in helping perpetrate the cyber abuse. Indeed, cyber abuse is commonplace in many friend groups and this constant connection could be a factor in some evidence suggesting that friends may be especially influential in CDA versus in other kinds of abuse. Yahner et al. (2015) examined the relation between various kinds of bullying and dating abuse and found that more than half of cyber bullies also engaged in dating abuse. Although these numbers did not outweigh rates of traditional abuse, they found that the strongest associations between the peer and dating context were held by cyber abuse which suggests that there is some connection at play. Compared to physical abuse, peers have more opportunities to influence perpetrators of online abuse since the online context is often public and a part of nearly everyone's daily lives with constant mobile phone and social media access.

One of the key predictors of abuse in the offline dating abuse literature involves attitudes and normative beliefs. Both variables are important to consider since they can be highly significant influencers on an individual's behaviour toward something such as dating abuse. The Theory of Reasoned Action, as developed by Fishbein and Ajzen (1975), states that people

behave in certain ways due to their individual attitudes and normative beliefs (Benoit, n.d.; Whigham, 2008). Attitudes involve evaluations of certain objects that influence one's emotions, behaviours, and beliefs toward these objects (Attitude, 2009). Also, specific to the current study are both injunctive and descriptive normative beliefs, with normative beliefs defined as the beliefs one holds around an area of interest such as dating violence (Reyes et al., 2015). People act on their attitudes or beliefs around certain norms depending on a situation. For instance, if one has negative attitudes toward dating violence victims, and believes that their friends also hold the same negative attitudes, they may be more inclined than others to behave in a dating-violent manner toward their own partner. This could also be applied in the opposite direction; If one has positive attitudes toward these victims but believes their friends have negative victim attitudes, they might struggle to choose whether to rely on their own attitudes in a situation or to follow what their friends say about dating violence victims and then act accordingly.

Reinforcement behaviours also influence the peer context within dating relationships and should be researched specific to CDA, which will be explored later in relation to friend reinforcement behaviours specifically. It is thus important to measure attitudes and normative beliefs in relation to the CDA phenomenon. To date, relevant research examines each of these variables, though not necessarily all together.

Research on Individual Attitudes

First, the role of individual attitudes in relation to CDA will be examined for the current study. Individual attitudes have been implicated numerous times in previous dating violence research, though less frequently so in CDA-specific research. Although little to no studies measure attitudes in conjunction with CDA, one by Peskin et al. (2016) did assess attitudes toward sexting with one questionnaire item and found that more sexting-positive attitudes were

associated with a higher risk of perpetrating CDA. In contrast, attitudes have been commonly measured in offline dating violence research. Josephson and Proulx (2008) examined predictors of dating violence and found that having violence-tolerant attitudes toward dating abuse led to more dating violence behaviours. They also found that knowing about dating abuse consequences decreased the likelihood of holding these tolerant attitudes toward dating violence. Another study by Reyes et al. (2015) echoed Josephson and Proulx's (2008) findings, which focused on traditional gender role attitudes involved in dating violence. They found that males with traditional gender role attitudes, and males more accepting of dating violence, had higher rates of dating abuse behaviours. Similar results likely apply to a CDA context in terms of violence-tolerant attitudes toward online harassment, or cyberbullying, leading to higher rates of CDA behaviours.

Attitudes have also been measured in both bullying and cyberbullying research. Barlett and Gentile (2012) explored cyberbullying predictors among adolescents and found that having positive attitudes toward cyberbullying significantly predicted acts of cyberbullying. They also found that positive attitudes toward online anonymity predicted cyberbullying. Online anonymity is a large part of online harassment since this invisibility leads to a feeling of power for most people. Anonymity can lead people to say and do things online where they would not do the same offline, which certainly applies to cyberbullying within dating relationships. Implications for CDA-specific research here would suggest that having more positive or tolerant attitudes toward online harassment, cyberbullying, and online anonymity, would likely lead to more CDA behaviours.

Research on Individual Normative Beliefs

Secondly, the role of individual normative beliefs around CDA will be explored in the

present study. CDA research has incorporated the role of normative beliefs in predicting behaviour more frequently than many other dating violence variables, but offline dating violence still dominates the research field here. Again, normative beliefs, or descriptive normative beliefs, are the beliefs one has regarding an area of interest, such as beliefs about dating violence and justifications of dating-violent actions (Reyes et al., 2015). For example, believing that jealousy in a partner is a sign of love; This would classify as a justification of violence if a person justified their partner's jealousy by saying it was only because they loved them. Aside from studying individual attitudes involved in dating violence, Reyes et al. (2015) also looked at normative beliefs around dating violence. They found that believing in more dating violence norms was associated with higher rates of offline dating violence, and higher acceptance of dating violence overall. Similar to Reyes et al. (2015), Peskin et al. (2016) examined CDA-specific normative beliefs and found that male normative beliefs about females here were associated with more CDA behaviours. Pertinent to the current study, it was expected that any normative beliefs around CDA would be associated with increased CDA behaviours, whether participants were male or female.

Another study within CDA research by Borrajo et al. (2015a) examined justifications of violence, or normative CDA beliefs, in relation to CDA. As with Josephson and Proulx's (2008) results regarding pro dating violence attitudes, Borrajo et al. (2015a) found that these normative CDA beliefs, as well as love beliefs – such as believing jealousy is a sign of love – were associated with perpetration of CDA behaviours. In their research, they separated CDA into two facets of direct aggression and online control. The love beliefs were associated with the online control facet more frequently, where CDA justifications were more often associated with the direct aggression facet. As for the current study, the implication was that believing in more CDA

norms would lead to higher rates of CDA more generally.

Research on Friend Attitudes, Reinforcement, and Friendship Quality

Finally, three friend-specific variables in relation to CDA will be examined in the present study, namely friend attitudes, friend reinforcement, and friendship quality. Throughout research, friends have been shown to predict various kinds of dating abuse. In fact, teenagers with friends who have experienced dating abuse of some kind are at a higher risk of perpetrating dating violence themselves (Arriaga & Foshee, 2004). Friend attitudes and reinforcement behaviours have also been shown to affect bullying in peer relationships and within dating relationships. Both variables have been demonstrated to influence violence perpetration among friends and dating partners. Indeed, information that may shape attitudes towards dating violence likely originates within the peer context (Ellis & Dumas, 2018). From Social Learning Theory (Bandura & Walters, 1963), individuals can learn to act in certain ways through observing others and then modelling their behaviours, with or without being reinforced. Reinforcement also impacts the peer context related to CDA. If the reinforced behaviours are nonaggressive, social learning is not an inherently negative process. However, problems arise when social learning leads to aggression, which is a common area of concern within the theory. Among youth, aggression typically occurs through bullying, making reinforcement of bullying a highly relevant aspect to study in relation to the peer context. For instance, one study that examined bystander behaviour in bullying situations found that higher frequencies of bullying were associated with reinforcing bystander behaviours such as laughing, which can further incite a bully (Salmivalli, Voeten, & Poskiparta, 2011). Evidently, reinforcement behaviours have some effect on bullying, just as attitudes do.

In peer research, homophily involves the idea that people choose their friends based on

similarity, including choosing peers who behave like them, look like them, or share similar attitudes with them. Hopper (2011) expanded on the idea behind similar attitudes in her thesis, noting selection effects and socialization. Selection effects occur when people choose to associate with those who are like them (Hirschi, 1969), while socialization causes people to behave more in line with their peers because of this group membership with similar people (Dishion, Patterson, & Griesler, 1994). A study by Henry, Schoeny, Deptula, and Slavick (2007) examined selection effects and socialization in relation to sexual behaviours and found evidence that these both affected sexual risk. Related to socialization, they found that peer attitudes toward risky sexual behaviours influenced individuals' own attitudes about these risks; When friends had intercourse without condoms, this led to individuals having unprotected sex later as well. It is human nature that people are influenced by outside opinions and attitudes, often more than their own. This is especially related to being influenced by friends' attitudes since people typically value them. As socialization states, people are more inclined to match a peer's behaviour simply because they are friends with them, and usually because they like them and/or value their friendship.

With this attitude research in mind, Hopper (2011) studied individual, friend, and perceived friend attitudes involved in dating violence. She hypothesized that the perceived friend attitudes, reported by participants about their friends, would match the individuals' own attitudes about dating violence, which was supported. This notion around perceived friend attitudes can be incorporated into CDA-specific research. In line with these findings, it was expected that individual attitudes in the present study would mostly match reported perceived friend attitudes, regardless of whether these perceived attitudes were accurate to the friends' actual attitudes. Moreover, it may be the perception of friend attitudes that are most relevant to emerging adults'

decision making. Research has shown that individuals often overestimate peer attitudes on various measures, including toward bullying and dating abuse (Bartholomew, Schmitt, Yang, & Regan, 2013; Perkins, Craig, & Perkins, 2011).

Where attitudes involve a personal evaluation of an object, friend reinforcement involves a person's personal evaluations being swayed by their friends' own behaviours and attitudes. Over time, the actions people partake in based on their friends' actions result in a pattern of reinforcement for these specific behaviours. One example of friend reinforcement comes from the well-documented phenomena termed deviancy training, which occurs when peers positively reinforce antisocial behaviours (Patterson, Dishion, & Yoerger, 2000). Observations of deviant peers show that positive reinforcement has a significant role in how these deviant behaviours develop and are maintained, including through peer approval, praise, agreement, laughter, or smiling (Buehler, Patterson, & Furniss, 1966). One study found that males who engaged in hostile discussions with friends about women engaged in dating violence 4 years later (Capaldi, Dishion, Stoolmiller, & Yoerger (2001). These discussions likely featured reinforcement behaviours such as laughter and agreement among the male group members. This suggests that friends have an important role in the perpetration of dating violence. Friends can also reinforce people through punishing behaviours, such as disapproval, ignoring, disagreeing, threatening, or frowning (Buehler et al., 1966). Barlett and Gentile (2012) studied reinforcement of cyberbullying, applicable to both individuals and friends in the behaviours they engage in that help reinforce cyberbullying. They found that reinforcement behaviours around cyberbullying significantly predicted cyberbullying perpetration. For CDA-specific research, higher rates of friend reinforcement should echo these results and predict higher rates of CDA behaviours.

Friendship quality has not been studied in relation to CDA, though it has been

implicated in offline dating violence research (Foshee et al., 2013a). Friendship quality involves assessing how close a friendship bond is, with high quality friendships marked by emotional closeness and reciprocity. Reciprocated friendships have been found to protect against various risk behaviours in adolescence, including less risk of smoking marijuana (Ennett et al., 2006), while low quality friendships have been associated with various risks, including having lower social status (Clark & Ayers, 1988; Foshee et al., 2013a). Having high quality friendships acts as a buffer to these risk factors in part because emerging adults feel fulfilled from these high-quality relationships and thus less inclined to engage in risky behaviours, like smoking, because of this quality. High quality friendships also provide a training ground for people to develop more appropriate social skills and behaviours in peer and dating contexts. Indeed, information learned in the peer context translates to the dating context, and friendship quality is no exception (Ellis & Dumas, 2018; Foshee et al., 2013a). Ultimately, having healthy friendships with peers will result in healthier relationships with dating partners. Foshee et al. (2013a) emphasized the importance of the peer context in relation to dating violence and studied peer influences here. They found that higher dating violence behaviours were associated with having dating-violent friends, but they also found that having higher quality friendships decreased the risk of perpetrating dating violence. This research can be extended to explore CDA specifically, the implication being that having lower quality friendships would lead to higher rates of dating violence/ CDA behaviours.

Research on Gender Differences

In addition to studying CDA alongside individual and friend variables, gender differences will also be examined. Males and females have been shown to differ on many variables, including gender role attitudes (Reyes et al., 2015) and aggression (Foshee, Reyes, & Ennett, 2010). Results vary though and are not consistent with all previous research. Males have been

found to perpetrate more dating violence than females (Pflieger & Vazsonvi, 2006), but females have also been found to perpetrate more dating violence than males (O'Keefe, 1997). Thus, gender differences are difficult to conclude in relevant dating violence research. Foshee et al. (2010) found that aggression toward peers, use of marijuana, and depression each predicted female offline dating violence perpetration. The same predictors were not found for males. In CDA research, Borrajo et al. (2015a) found that females perpetrated more CDA and offline psychological abuse than males. Of primary interest for this study is whether males and females differ on rates of CDA and, specific to the CDA-focused study results, it was expected that females would rate higher on CDA than males.

The Current Study

Throughout relevant previous research, dating violence has been shown to be affected by individual attitudes (Barlett & Gentile, 2012; Josephson & Proulx, 2008; Reyes et al., 2015) and by individual normative beliefs (Borrajo et al., 2015a; Peskin et al., 2016; Reyes et al., 2015). Dating violence has also been shown to be affected by the same variables in a peer context, including peer attitudes (Hopper, 2011) and by friendship quality (Foshee et al., 2013a). Friend reinforcement has been directly linked to cyberbullying and has been implicated in dating violence perpetration (Barlett & Gentile, 2012). Consistently throughout the research, poor attitudes toward dating violence have been linked to higher rates of dating violence (Hopper, 2011; Josephson & Proulx, 2008; Reyes et al., 2015), and more normative beliefs in dating violence norms have been associated with higher rates of dating violence (Borrajo et al., 2015a; Peskin et al., 2016; Reyes et al., 2015). It has also been demonstrated that higher reinforcement behaviours on an individual and friend level have been associated with higher rates of cyberbullying (Barlett & Gentile, 2012). Friendship quality has also been researched alongside

offline dating violence, emphasizing the importance of studying peers in relation to dating violence both offline and online (Foshee et al., 2013a). Additionally, numerous gender differences have been found in relation to offline dating violence and CDA (Borrajo et al., 2015a; Foshee et al., 2010; O’Keefe, 1997; Pflieger & Vazsonvi, 2006; Reyes et al., 2015).

To date, most relevant research has occurred within the offline dating violence context. The existing research should be built upon in terms of conducting more CDA-specific research in general, but should also strive to examine how friends can influence dating violence with respect to online contexts. Thus, the peer context should be added into CDA research. No studies to date have examined CDA and the peer context together. The current study sought to explore this gap in the research through measuring perceived friend attitudes toward CDA and facets of how friends can reinforce CDA behaviours. Specifically, the presence of friends was measured in relation to how often they were present during the perpetration of CDA. How well participants thought their friends reinforced these CDA behaviours at the time of perpetration was also measured.

To explore these friend influences in CDA, alongside individual influences, data was collected through online self-report questionnaires. The variables being assessed included friendship quality, CDA behaviours, friend reinforcement, individual cyberbullying-tolerant attitudes, perceived friend cyberbullying-tolerant attitudes, and normative CDA beliefs. The current study tested four hypotheses with respect to the previously mentioned research.

1. The first hypothesis predicted a positive relationship between more individual normative CDA beliefs and higher rates of CDA behaviours.
2. The second hypothesis predicted a positive relationship between higher rates of individual and perceived friend cyberbullying-tolerant attitudes and higher rates of

CDA behaviours.

3. The third hypothesis predicted a positive relationship between higher rates of friend reinforcement of CDA and higher rates of CDA behaviours.
4. The fourth hypothesis predicted a negative relationship between lower reported friendship quality and higher rates of CDA behaviours.

Method

Participants

Participants included 83 females and 18 males between the ages of 18 and 25 or more years ($M = 19.43$, $SD = 1.77$) all enrolled in psychology classes at King's University College. Most participants identified as Caucasian (69%), followed by Asian (15%), "other" (10%), Hispanic/ Latino (3%), Native American (2%) and African American (1%). Participants must have had dating experience within the last 6 months to qualify for the study.

Materials

Qualtrics survey software. Questionnaires were completed with Qualtrics online survey software, a secure web server. The online collection of data allowed participants easier access to completing the study. Participants signed up for the study through the King's University College SONA server and/or were emailed a link to the study by the primary researcher.

Measures

Demographic questionnaire. Participants were presented with 12 demographic questions (see Appendix A for demographic questionnaire) inquiring about their age, sex, ethnicity, and questions about their dating experiences. Items asked about their dating status, number of partners in the last 6 months, the age of their first dating experience, most recent relationship duration, if any recent relationships were long-distance or long-term, total number of

long-term relationships experienced, as well as whether participants thought they were or that a friend would consider them to be a casual dater.

Friendship quality measure (Gleason, Jensen-Campbell & Ickes, 2009). This 4-item measure assessed participants' friendship quality with those they considered close friends. Participants were asked to respond to a series of statements that measured the quality of their friendships. Items included "I have fun times with my friend(s)" and "I depend on my friend(s) for help, advice, and support." Each item was ranked on a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). Reliability analyses revealed Cronbach's alpha to be .81. Scores were averaged across the 4 items.

Cyber dating abuse questionnaire (CDAQ) (Borrajo, Gámez-Guadix, Pereda & Calvete, 2015b). This 18-item questionnaire measured participants' CDA behaviours. The CDAQ was adapted from Borrajo et al.'s (2015b) original CDAQ with rewording of some items and deletion of 2 items that were not relevant. During data collection, the CDAQ was reworded so participants saw the term "cyber dating harassment" instead of "cyber dating abuse"; This was done to avoid negative connotations from the word "abuse." Participants were asked to indicate how often they had engaged in cyber dating harassment behaviours. Items included "spreading secrets and/or compromised information about your partner using new technologies" and "checking a partner's mobile phone without permission." Items were ranked according to a 6-point Likert scale ranging from 1 (*never*) to 6 (*always; more than 20 times*). Borrajo et al.'s (2015b) study distributed the CDAQ twice to participants, for perpetration and victimization experiences. The current study only assessed perpetration of CDA. The reported Cronbach's alpha for this version of the CDAQ was .88. Scores were averaged across the 18 items.

Friend reinforcement of cyber dating abuse questionnaire (Borrajo et al., 2015b;

Ndombele, 2017). This 6-item questionnaire was developed by the current primary researcher using the 6 most frequent behaviours from the CDAQ (Borrajo et al., 2015b) that Ndombele (2017) reported in their study (see Appendix B for friend reinforcement of CDA questionnaire). This questionnaire was created to measure how often a friend was present during the participants' most frequent CDA behaviours and participants' perceptions of friend support for the behaviours, with subscales for friend presence and friend support. An item that assessed how often a friend was present was "if you have ever checked a partner's mobile phone without permission, how often was a friend present?" These items that measured friend presence were rated according to a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). For each of these items, participants were also asked "to what extent did your friends support this behaviour?" according to a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*). There was an option to respond with "not applicable" for all items, which was coded as missing for scale creation. The friend presence subscale revealed a Cronbach's alpha of .89, and the perceived friend support subscale revealed a Cronbach's alpha of .96. Scores were averaged across all items in each respective subscale.

Individual attitudes toward cyberbullying questionnaire (Barlett & Gentile, 2012).

This 9-item questionnaire measured participants' attitudes toward cyberbullying, and was adapted from Barlett and Gentile's (2012) attitudes toward cyberbullying questionnaire with rewording of some items. Participants were asked to indicate their agreement with a series of statements about online harassment. One item was "teasing others on social media or through messaging systems can be fun." Items number 5 and 6 were reverse coded, one of which was "I feel bad sending mean texts, messages or emails to others," to help control for acquiescence biases. The items were rated according to a 5-point scale Likert scale ranging from 1 (*strongly*

disagree) to 5 (*strongly agree*). Cronbach's alpha was revealed to be .70. Scores were averaged across all 9 items.

Perceived friend attitudes toward cyberbullying questionnaire (Barlett & Gentile, 2012). This 9-item questionnaire is the same as the individual attitudes measure but was phrased in a way to assess what participants' thought their friends would say to the same statements. Items included "my friends believe that teasing others on social media or through messaging systems can be fun," and "my friends believe it is acceptable to send mean messages to others when they deserve it." Again, items 5 and 6 were reverse coded, one of which is "my friends feel bad sending mean texts, messages or emails to others," to avoid acquiescence biases. As with the individual attitudes measure, items were rated according to a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Analyses revealed Cronbach's alpha to be .79. Scores were averaged across all 9 items.

Cyber dating abuse normative beliefs questionnaire (Gage, 2016; Hopper, 2011). This 6-item questionnaire was created by the current primary researcher with Gage's (2016) and Hopper's (2011) own questions and phrasings from their articles in mind (see Appendix C for CDA normative beliefs questionnaire). Gage's questionnaire assessed dating violence acceptance while Hopper's measured norms and attitudes of dating violence. Neither questionnaire focused on CDA. Participants were asked to indicate if they thought it was "okay to check up on a partner online or check their phone" if their dating partner did any of the 6 items on the questionnaire. Items included "if they insult you in front of your friends," and "if they hang out with their friends more than they do with you," and were rated according to a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for this measure was .86. Scores were averaged across all 6 items.

Procedure

Ethical approval was obtained from the King's University College Research Ethics Committee. Initially, participants were recruited through Psychology 1000 classes at King's University College. Additional participants from select 2000-level Psychology courses were also accessed; Professors of these classes were asked if they were willing to allow the primary researcher to distribute the sign-up poster to students in the absence of their presence. After signing up for a timeslot through the SONA web server, participants were emailed a link to the study by the primary researcher. Participants first read a letter of information with details and risks listed about the study before consenting with their online signature.

After answering the demographic questionnaire, measures started with the least sensitive questionnaire of friendship quality to ease participants into the study. The CDAQ was presented next since it was the longest questionnaire, and was followed by the friend reinforcement of CDA questionnaire since the items were taken from the CDAQ. After these, the Attitudes Toward Cyberbullying questionnaire was presented, followed by the accompanying Perceived Friend Attitudes Toward Cyberbullying questionnaire. Finally, the CDA normative beliefs questionnaire was presented last as a wrap-up to the study. After completing all surveys, students were presented with a debriefing form detailing further information about the study as well as resources to contact if they experienced any distress during the study. Responses on average took about 20 minutes to complete, with some participants taking less than that and some taking more time to complete the study. Psychology 1000 students were awarded a 2.5% bonus credit for completing an additional assignment about the study. Additional participants were given a \$5.00 Tim Hortons gift card for their participation.

Results

Descriptive Information of Sample

Descriptive statistics were run on participant answers to the 12 demographic questions included in the study. Approximately 47% of participants had their first dating experience between the ages of 13 and 15 years, and 70% were in a dating relationship at the time of the study. Most had dating experiences with only 1 person in the past 6 months (87%), and 99% of the sample had dating experiences with opposite-sex partners. From the sample, 47% indicated that they had only experienced one long-term relationship ever in their life; 6% indicated that they had long-term experiences with 4 or more partners ever in their life. Many of the participants' most recent relationships lasted for 6 months or longer (72%), with 30% of the sample indicating that their most recent relationship lasted for 2 or more years and that most were not long-distance (69%). Additionally, 75% of participants did not consider themselves to be casual daters, though 14% indicated that they were in the past. Most participants indicated that they thought a friend would also not consider them to be a casual dater (80%).

Frequencies of Cyber Dating Abuse and Friend Presence

Frequency of cyber dating abuse behaviours. Frequencies were run on participant responses to the CDAQ (Borrajo et al., 2015b) to assess how often each CDA behaviour was occurring in the sample. Frequencies for all 18 CDA behaviours are reported in Table 1. On average, 20% of the sample reported having engaged in CDA in some capacity toward a partner, whether very rarely (1-2 times) or very frequently (20 times a day). Indeed, only 15% of the sample reported "never" to all CDA items. Fifteen percent engaged in 1 behaviour, 13% engaged in 2 behaviours, 18% engaged in 3 behaviours, 10% engaged in 4 behaviours, 8% engaged in 5 behaviours, and 22% engaged in 6 or more behaviours. The most frequently reported CDA behaviour was "checking a partner's mobile phone without permission" (49%), followed by

“checking last connection in mobile applications” (44%) and “checking social networks, Whatsapp, and email” (37%) without permission. Compared to Ndombele’s (2017) research also around CDA, frequencies of 5 items from the CDAQ (Borrajo et al., 2015b) have risen between 2-9% in the past year since their research, including “checking last connections in mobile applications” (7%) and “making excessive calls to control where a partner is and with whom” (9%). Ndombele’s (2017) research also shows that 9 CDA behaviours have decreased between 2-18% in the past year, including “using new technologies to pretend to be a partner and create problems” (2%), and “checking a partner’s phone” (18%).

Table 1

Frequency of Cyber Dating Abuse Behaviours

CDA Behaviour	Frequency
Checking a partner’s mobile phone without permission	49%
Checking your partner’s last connection in mobile applications	44%
Checking your partner’s social networks, Whatsapp or email without permission	37%
Sending insulting and/or demeaning messages to your partner using new technologies	33%
Spreading rumours, gossip and/or jokes through new technologies with the intention of ridiculing your partner	32%
Using your partner’s passwords (phone, social networking, email) to browse their messages and/or contacts without permission	31%
Using new technologies to control where my partner is and with whom	22%
Making excessive calls to control where your partner is and with whom	20%
Pretending to be another person using new technologies to test a partner	18%
Posting music, poems, or phrases on social networking sites with the intent to insult or humiliate your partner	15%
Spreading secrets and/or compromised information about your partner using new technologies	13%
Writing a comment on the wall of a social network to insult or humiliate your partner	12%
Controlling your partner’s status updates on social networks	11%

Threatening to answer calls or messages immediately using new technologies	8%
Threatening to spread secrets or embarrassing information about your partner using new technologies	5%
Sending or uploading photos, images and/or videos with intimate or sexual content of your partner without permission	5%
Creating a fake profile on social networks to cause problems for your partner	5%
Using new technologies to pretend to be your partner and create problems	4%

Frequency of friend presence during key cyber dating abuse behaviours. Of the 6 CDA behaviours asked in the Friend Reinforcement questionnaire, the frequencies of how often a friend was present for each were calculated. Of those who reported that they engaged in any of these 6 behaviours, most on average did not report having a friend present during the time they engaged in the behaviour (66%); However, friends were reported to be present for 34% of the time among these 6 behaviours, on average, whether this was not very often or almost always during each behaviour. Friends were present most often when participants “spread rumours, gossip and/or jokes” to ridicule a partner (46%), and when they “sent insulting or demeaning messages” to a partner (43%). These 6 items are among the top 7 most frequently occurring CDA behaviours reported by participants. Frequencies for each of the 6 behaviours are listed in Table 2.

Table 2

Frequency of Friend Presence During Key Cyber Dating Abuse Behaviours

Friend Present During CDA Behaviour	Frequency
Spreading rumours, gossip and/or jokes through new technologies with the intention of ridiculing your partner	46%
Sending insulting and/or demeaning messages to your partner using new technologies	43%
Checking your partner's last connection in mobile applications	35%
Using your partner's passwords (phone, social networking, email) to browse their messages and/or contacts without permission	28%
Checking a partner's mobile phone without permission	26%
Checking your partner's social networks, Whatsapp or email without permission	25%

Gender Differences Among Variables

Independent-sample t-tests were conducted on summary scores and all scale items for each variable to test for gender differences. While no significant gender differences were found among friend reinforcement (both friend presence and perceived friend support) or normative beliefs, there were significant differences found on select items for friendship quality, CDA, and both individual and perceived friend cyberbullying-tolerant attitudes.

Friendship quality gender differences. It was revealed that females scored significantly higher ($M = 4.04$, $SD = 0.85$) than males ($M = 3.33$, $SD = 1.03$) on the item “I depend on my friend(s) for help, advice, and support” ($t(99) = -2.71$, $p < .05$), indicating that more females may depend on their friends for support than males.

Cyber dating abuse gender differences. Analyses revealed that there were significant gender differences for 3 of the items on the CDAQ (Borrajo et al., 2015b), with females scoring higher than males on each one. One of these results was on the item “threatening to spread secrets or embarrassing information about your partner using new technologies,” with females found to score significantly higher ($M = 1.14$, $SD = 0.57$) than males ($M = 1.00$, $SD = 0.00$) on the item ($t(99) = -2.33$, $p < .05$). These gender differences indicated that females were perpetrating more CDA on these 3 items with their respective partners. The gender differences for CDA are presented in Table 3.

Table 3

Gender Differences in Cyber Dating Abuse with Males versus Female Participants

CDA Behaviour	<u>Male Participants</u>		<u>Female Participants</u>		<i>t</i> -ratio
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Threatening to answer calls/ messages immediately	1.00	.00	1.23	.80	-2.60*
Checking partner's last connection in mobile applications	1.44	.78	2.04	1.31	-2.53*
Threatening to spread secrets/ embarrassing info about partner	1.00	.00	1.14	.57	-2.33*

Note. * $p < .05$

Individual cyberbullying-tolerant attitudes gender differences. It was revealed that males scored significantly higher on 2 items from the Individual Attitudes Toward Cyberbullying questionnaire (Barlett & Gentile, 2012). Results showed that significantly more males ($M = 1.78$, $SD = 0.65$) than females ($M = 1.24$, $SD = 0.66$) agreed with the item “people who join in on group chats on social networking sites (Twitter, Instagram, Facebook) that make fun of others are justified in doing so” ($t(99) = 3.19$, $p = .004$). Results also showed that significantly more males ($M = 2.33$, $SD = 1.41$) than females ($M = 1.55$, $SD = 0.89$) felt less bad sending mean texts, messages or emails to others ($t(99) = 2.24$, $p = .036$), which was evident from the reverse-scored item “I feel bad sending mean texts, messages or emails to others.” Scores on average for males were higher than females, indicating that males may have more cyberbullying-tolerant attitudes than females, significantly so on these 2 items.

Perceived friend cyberbullying-tolerant attitudes gender differences. Analyses revealed that females scored significantly higher on 2 items from the adapted Perceived Friend Attitudes Toward Cyberbullying questionnaire. It was found that significantly more females ($M = 2.75$, $SD = 1.29$) than males ($M = 2.06$, $SD = 1.03$) thought their friends would indicate more agreement with the item that “sometimes sending passively aggressive mean messages to others is the only way to get even” ($t(98) = -2.40$, $p = .023$). The same was found with significantly more females ($M = 3.66$, $SD = 1.14$) than males ($M = 2.78$, $SD = 1.22$) indicating that they thought their friends would agree more with the item that they “have sent mean texts to others after they have texted them hurtful comments” ($t(99) = -2.83$, $p = .009$).

Differences Between Summary Scores: Attitudes

A paired-samples t test was conducted to test for significant differences between individual and perceived friend cyberbullying-tolerant attitudes. There was a significant average

difference between individual and perceived friend attitudes ($t(100) = -8.12, p < .001$), with perceived friend attitudes rated higher ($M = 2.44, SD = .07$) than individual ones ($M = 2.00, SD = .06$). This indicates that individuals think their friends are more tolerant of cyberbullying than they personally are.

Correlations Among Variables

Correlations among age. Correlations were computed among age and each variable. Results indicated that there was a nearly significant negative relationship between age and friendship quality, suggesting that younger participants may have had higher friendship quality than older participants, $r(99) = -0.19, p = 0.54$. Although not significantly, correlation computations indicated that younger participants seemed to engage in more CDA behaviours, agreed with more cyberbullying-tolerant attitudes, and thought their friends would also agree with more cyberbullying-tolerant attitudes than older participants.

Correlations among cyber dating abuse and demographic items. Correlations were computed among CDA and a select few demographic items: age of first dating experience, number of partners in the past 6 months, most recent relationship duration, number of long-distance partners in the past 6 months, and number of long-term partners in the past 6 months. Correlations are presented in Table 4. Results showed a significant positive relationship between CDA and number of long-distance relationships, suggesting that a greater number of long-distance relationships was associated with more CDA behaviours. There was also a significant negative relationship between length of most recent relationship and both age of first dating experience and number of partners, which suggests two ideas; That longer recent relationships were associated with earlier first experiences with dating, and that longer recent relationships were associated with a smaller number of partners in the last 6 months. There was a significant

negative relationship found between number of long-term relationships and age of first dating experience, suggesting that a greater number of long-term relationships was associated with earlier first experiences with dating. Analyses also revealed a significant positive relationship between number of long-term relationships and both length of most recent relationship and number of long-distance relationships, which suggests two ideas; That more long-term relationships were associated with longer recent relationships, and that more long-term relationships were associated with more long-distance relationships in the past 6 months.

Table 4

Correlations, Means, and Standard Deviations Between Cyber Dating Abuse and Select Demographic Items

	M(SD)	1	2	3	4	5	6
1. CDA	1.39(0.48)	-					
2. Age of First Dating Experience	2.50(0.78)	.46	-				
3. Number of Partners	1.24(0.72)	.07	-.04	-			
4. Recent Relationship Duration	6.44(2.49)	.01	-.20*	-.29**	-		
5. Number of Long-Distance Relationships	1.39(0.69)	.25*	.10	.13	.12	-	
6. Number of Long-Term Relationships	2.44(0.97)	-.01	-.33***	.05	.28**	.28**	-

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

Correlations among cyber dating abuse and predictor variables. Correlations were computed among CDA and each predictor variable: friendship quality, friend presence, friend support, individual and perceived friend cyberbullying-tolerant attitudes, and normative beliefs. Correlations for all variables are presented in Table 5.

Correlation computations showed significant relationships between friend reinforcement, cyberbullying-tolerant attitudes, and normative beliefs with CDA. The significant positive relationship between CDA and friend presence suggests that more CDA was associated with more friend presence during the CDA behaviours. The significant positive relationship between CDA and friend support indicates that more CDA was associated with more perceived friend support during the CDA behaviours. The significant positive relationship between CDA and both individual and perceived friend cyberbullying-tolerant attitudes suggests that more CDA was associated with more cyberbullying-tolerant attitudes by individuals, and with participants thinking that their friends had more cyberbullying-tolerant attitudes. The significant positive relationship between CDA and normative CDA beliefs indicates that more CDA was associated with holding more normative CDA beliefs.

Results also showed significant relationships among the predictor variables without CDA. The significant positive relationship between friend presence and friend support indicates that more friend support during a CDA behaviour was associated with more perceived friend support of said CDA behaviour by participants. The significant positive relationships between individual and perceived friend cyberbullying-tolerant attitudes and both friend reinforcement variables indicate that more of these attitudes, or perceived attitudes, were associated with more friend presence and perceived support during CDA. The significant negative relationship between both individual and perceived friend cyberbullying-tolerant attitudes and friendship

quality indicates that more tolerant attitudes were associated with lower friendship quality. Interestingly, the perceived friend attitudes here were correlated more significantly with friendship quality than the individual attitudes. The significant positive relationship between normative CDA beliefs and both friend reinforcement and individual cyberbullying-tolerant attitudes suggest two ideas; That more normative beliefs were associated with more friend presence and perceived support during CDA, and that more normative beliefs were associated with more cyberbullying-tolerant attitudes by individuals.

Table 5

Correlations, Means, and Standard Deviations Between Cyber Dating Abuse and Predictor Variables

	M(SD)	1	2	3	4	5	6	7
1. CDA	1.39(0.48)	-						
2. Friendship Quality	4.18(0.70)	-.09	-					
3. Friend Presence	1.03(0.81)	.64***	-.02	-				
4. Friend Support	1.36(1.36)	.49***	-.05	.74***	-			
5. Individual Cyberbullying-Tolerant Attitudes	1.99(0.59)	.45***	-.23*	.43***	.41***	-		
6. Perceived Friend Cyberbullying-Tolerant Attitudes	2.44(0.75)	.28**	-.31***	.20*	.23*	.68***	-	
7. Normative CDA Beliefs	2.20(0.92)	.48***	.06	.48***	.33***	.32***	.18	-

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

Analytic Plan and Testing Hypotheses

One hierarchical regression was conducted to determine whether CDA was predicted by each predictor variable. This was also used to test all 4 hypotheses. Each predictor variable was centered as per recommendations by Aiken and West (1991), before they were entered in three blocks into the regression analysis with CDA as the dependent variable: (a) age and gender, (b) two individual-relevant variables including normative beliefs and individual cyberbullying-tolerant attitudes, and (c) three friend-relevant variables including friend reinforcement variables, perceived friend cyberbullying-tolerant attitudes, and friendship quality. Variables were entered in a single equation to determine if friend variables would predict CDA over and above the contribution of age, sex, and individual variables. Age and gender interactions were also tested for but yielded no significant findings and thus were removed from analysis. Moderation effects with friendship quality as a moderator variable between CDA and the other predictor variables were tested for but also yielded no significant results, and thus were removed from the analysis as well. The hierarchical regression is shown in Table 6.

Predicting cyber dating abuse from cyberbullying-tolerant attitudes and normative beliefs. The regression analysis was used to determine if the individual variables, or individual cyberbullying-tolerant attitudes and normative beliefs, could predict CDA. The age and gender model, block (a), was not significant but yielded an F-value of $F(2, 98) = 1.12, ns$, and accounted for 2% of the variance. The individual variables model, block (b), was significant, $F(4, 96) = 13.31, p < .000$, and accounted for an additional 33% of the variance. CDA was positively predicted by individual cyberbullying-tolerant attitudes only ($b = 0.35, p < .000$). This indicated that holding more individual cyberbullying-tolerant attitudes would increase the likeliness of perpetrating CDA. Additionally, normative CDA beliefs were shown to significantly and

positively predict CDA from the same block (b) model ($b = 0.37, p < .000$). This indicated that higher belief in CDA norms increases the likelihood of perpetrating CDA.

Predicting cyber dating abuse from friend reinforcement and friendship quality.

The hierarchical regression was also used to determine whether CDA could be predicted from the friend reinforcement variables, friendship quality, and perceived friend cyberbullying-tolerant attitudes. This model, block (c), was significant, $F(8, 92) = 12.28, p < .000$, and accounted for an additional 16% of the variance. CDA was positively predicted by friend presence only ($b = 0.47, p < .000$), which indicates that if a friend were present, one was more likely to perpetrate CDA. Friend support was not shown to significantly predict CDA. The regression was also used to test if CDA could be predicted from friendship quality in block (c) but friendship quality was not shown to significantly predict CDA.

Table 6

Regression Analysis of Predictor Variables for Cyber Dating Abuse

Step	Variable	B	SE	t-ratio
1.	Age	-.11	.03	-1.09
	Gender	.09	.13	.90
2.	Individual cyberbullying- tolerant attitudes	.35	.07	4.02***
	Normative CDA beliefs	.37	.05	4.20***
3.	Friend presence	.47	.07	4.01***
	Friend support	.00	.04	.02
	Perceived friend cyberbullying- tolerant attitudes	-.03	.07	-.27
	Friendship quality	-.11	.06	-1.36

Note. *** $p < .001$

Discussion

The goal of this study was to explore predictors of CDA perpetration among university undergraduate students, which was examined through comparing multiple predictor variables to CDA. Results showed that CDA is occurring among university undergraduate students, with some CDA behaviours rising while others have decreased in the past year. Twenty percent engaged in some CDA behaviour, with nearly half of the sample checking a partner's phone without permission. Only 15% of the sample reported having never engaged in any CDA behaviours, with most participants indicating that they had perpetrated 6 or more CDA behaviours (22%). Additionally, friends were reported to be present 34% of the time during CDA perpetration, most frequently when participants spread rumours/gossip/jokes to ridicule a partner (46%). Among other demographic correlations, a significant correlation was reported between CDA and the number of long-distance relationships in the past 6 months. CDA was also found to significantly correlate with friend presence, friend support, both individual and perceived friend cyberbullying-tolerant attitudes, and normative beliefs. A hierarchical regression revealed that individual cyberbullying-tolerant attitudes, belief in CDA norms, and friend presence each significantly predicted CDA perpetration, with friend presence found to be the strongest predictor of CDA over and above the individual variables.

Results on Individual Variables: Individual Normative Beliefs and Attitudes

The first hypothesis predicted a positive relationship between holding more normative CDA beliefs and higher rates of CDA behaviours. This hypothesis was supported, with normative CDA beliefs shown to positively predict CDA. Both offline dating violence and CDA research has examined normative beliefs consistently, with results in line with the current study's. Namely, that more belief in dating violence/ CDA norms are associated with higher

dates of dating violence/ CDA (Borrajo et al., 2015a; Peskin et al., 2016; Reyes et al., 2015). It makes sense that holding more normative beliefs around dating violence/ CDA may make one more likely to engage in dating violence/ CDA since, like with attitudes, normative beliefs can have a strong influence over a person's actions, which is known from the Theory of Reasoned Action (Benoit, n.d.; Fishbein & Ajzen, 1975; Whigham, 2008). These beliefs can become a fundamental part of one's thoughts and overriding them may be very difficult. For instance, if a person believes that its normal to check up on a partner online, they would likely engage more in this CDA behaviour than one who does not hold that normative belief.

The second hypothesis predicted a positive relationship between higher rates of both individual and perceived friend cyberbullying-tolerant attitudes and higher rates of CDA behaviours. Results showed partial support for this hypothesis, with only individual cyberbullying-tolerant attitudes shown to positively predict CDA. In line with this result, previous research has demonstrated that holding violence-tolerant (Josephson & Proulx, 2008) or cyberbullying-tolerant attitudes (Barlett & Gentile, 2012) in a bullying or dating context leads to more cyberbullying/ dating violence behaviours. Research has also shown that more acceptance of dating violence is associated with higher rates of dating violence behaviours (Reyes et al., 2015). Attitudes have a strong influence over one's actions and beliefs, including engagement with CDA behaviours. Cyberbullying-tolerant attitudes could also be linked to traditional gender role attitudes, both influencing one another. If one is more tolerant of cyberbullying, it makes sense that they could also be more tolerant of CDA since the phenomenon involves cyberbullying a dating partner. Compared to one who is not tolerant of cyberbullying, those who are would be likelier to engage in CDA.

Results on Friend Variables: Friend Attitudes, Reinforcement, and Friendship Quality

Where the results showed that individual cyberbullying-tolerant attitudes predicted CDA, the second hypothesis was not fully supported since perceived friend cyberbullying-tolerant attitudes did not significantly predict CDA. Both individual and perceived friend attitudes did correlate significantly with one another, though. This could suggest that these cyberbullying attitudes somewhat matched one another, in line with previous research that found individual and perceived friend attitudes to mostly match one another (Hopper, 2011). However, results showed that there was a significant difference between the two variables with individual cyberbullying-tolerant attitudes found to be lower on average than perceived friend attitudes.

Previous research around bullying and offline dating violence has shown that individuals often overestimate their friends' beliefs and attitudes toward relevant dating abuse variables. One study found that individuals often misperceived their peers' normative beliefs about bullying, and their bullying-tolerant attitudes, by overestimating their involvement (Perkins et al., 2011). In a similar vein, another study showed that friend attitudes toward dating abuse specifically are overestimated by individuals (Bartholomew et al., 2013). This suggests that individuals may think their friends are more tolerant of cyberbullying than they are, which could influence their engagement with dating violence/ CDA. An individual might use this perceived belief as a justification of perpetrating CDA. They could think that if a friend has cyber dating abused more often and more severely than they are about to, then it's alright if they engage in CDA too. This could also suggest that individuals rate their friends higher on attitudinal measures, like this one, to feel better about their own attitudes toward something. If an individual has sent mean messages or cyberbullied another person before, they may say that their friends have also cyberbullied, but to a greater extent than they have.

The third hypothesis predicted a positive relationship between higher rates of friend

reinforcement of CDA, both friend presence and support, and higher rates of CDA behaviours. Results showed partial support for this hypothesis, with only friend presence shown to positively predict CDA. Notably, this was a strong predictor of CDA above and over the individual variables. Among those who reported engaging in 6 key CDA behaviours, on average friends were present in 34% of CDA perpetration, and participants thought their friends supported these perpetrations in some capacity 67% of the time. Previous research on bullying situations has found that reinforcement by bystanders (Salmivalli et al., 2011) and friends (Barlett & Gentile, 2012), such as laughing or disapproval of inaction, is associated with increased bullying behaviours both offline and online. One study found that among friend groups in early adolescence, coercive relationship norms become reinforced in the group (Ha, Kim, Christopher, Caruthers, & Dishion, 2016). Thus, if the group believes that checking a partner's phone without permission is a normal behaviour, the friends in the group are more likely to normalize the behaviour through this reinforcement. Clearly, friends have a large role in reinforcing bullying and dating violence, including CDA. People are susceptible to influence from peers since, generally, people want to be accepted and liked by their peers. If one is about to check a partner's phone without permission, a friend being present in the room may make them more likely to go through with the CDA behaviour, as these findings indicate. Friends can be present in many CDA-relevant situations, including during casual conversations and hangouts, or during group outings where phones, social media, gossip, or talk about partners comes up. After a conversation about a partner, for instance, a friend could give an individual an encouraging look at a restaurant or threaten that, jokingly or not, they will leave if the individual does not check up on their partner online at the table.

The fourth hypothesis predicted a negative relationship between lower reported

friendship quality and higher rates of CDA behaviours. While previously implicated in offline dating violence research, friendship quality has not been explored in relation to CDA. This hypothesis was not supported since friendship quality was not found to significantly predict CDA. However, friendship quality did significantly and negatively correlate with both individual and perceived friend attitudes, as shown in the correlations. Previous offline research finds that high-quality friendships can protect against adolescent risk factors such as smoking marijuana (Ennett et al., 2006). The theory is that people feel more fulfilled with high quality friendships, and thus feel less inclined to participate in risky behaviours, or hold negative attitudes. These findings could suggest that having lower quality friendships may make individuals more likely to hold cyberbullying-tolerant attitudes, and more prone to think their friends hold the same attitudes. In fact, friendship quality was more strongly correlated to perceived friend attitudes than individual attitudes. As attitude research shows, individuals often overestimate peer attitudes toward variables like bullying and dating abuse (Bartholomew et al., 2013; Perkins et al., 2011). This suggests that friendship quality is an important factor in how individuals perceive their friends' cyberbullying attitudes. Perhaps friendship quality impacts how one views their friends' attitudes toward something like cyberbullying.

Results on Gender Differences

Several significant gender differences in CDA, friendship quality, and both individual and perceived friend attitudes were also found. For CDA specifically, females were found to engage in significantly more of the following behaviours: threatened to answer calls/messages immediately, checked a partner's last connection in mobile applications, and threatened to spread secrets/embarrassing information about a partner. From previous research, females have been shown to perpetrate more offline dating violence than males (Foshee, 1996; O'Keefe, 1997). In

line with this research, Arriaga and Foshee's (2004) study found that females in middle and high school were more likely to perpetrate dating violence than males, but with moderate and not severe behaviours. Severe dating violence in their research involved physically aggressive actions, where a moderate or "less severe" act involved any other perpetration behaviour (Arriaga & Foshee, 2004). Related to a CDA context, severe behaviours might be those classified by Borrajo et al. (2015b) as directly aggressive acts, such as "sending insulting and/or demeaning messages using new technologies," where less severe ones may include online controlling acts, such as "checking a partner's phone without permission." Where Arriaga and Foshee (2004) found that females perpetrated more moderate dating violence behaviours, the 3 CDA gender differences from the current study comprised of two online control/ "moderate" and one direct aggression/ "severe" CDA behaviour. Borrajo et al.'s (2015a) study had similar findings with females found to rate significantly higher on perpetrating online control behaviours of CDA versus direct aggression behaviours. Females might see CDA behaviours as more normal and accepted than males, which could explain these findings. They could also be around friends more often during CDA perpetration than males, which the finding about friend presence predicting CDA might suggest.

Aside from CDA-specific differences, other gender differences were found among friendship quality and both individual and perceived friend attitudes. Gender roles could explain why females were found to depend more on their friends for support since traditional males are taught from an early age to be independent and strong and to not rely on others as much as females are. Additionally, Reyes et al.'s (2015) study found that males who held more traditional gender role attitudes such as these tended to accept the use of physical dating violence in relationships more than females. This could be related to the current finding that males agreed

with 2 cyberbullying-tolerant attitude items significantly more than females did. Males could accept the use of cyberbullying in peer and dating relationships more than females, though further research needs to be done to expand on these gender differences.

Overall, the findings support the idea that friends have a role in CDA, just as individual variables like attitudes and normative beliefs do. The findings also indicate that CDA is occurring more frequently than it is not, with 22% of the sample engaging in 6 or more CDA behaviours and only 15% engaging in none. People should be more aware of how their own attitudes and normative beliefs, as well as how the presence of a friend, could impact their experience with CDA. The field of research should continue to be added to so other results are discovered, including other predictor variables left unexplored in this study.

Study Limitations and Future Research

One limitation to this study is its correlational design, meaning one cannot infer causation from these results. Aside from this, another limitation with this study were participant issues with responding to the self-report questionnaires. With any self-report study there is always a risk of social desirability skewing the results, but even more so with an ethically-charged study such as this. Since the focus was on perpetration, participants could have lied or discounted their involvement with these CDA behaviours to look better on paper. There was also a risk of acquiescence biases occurring among participants in responding to the questionnaires; Participants could have clicked on any response to try and finish the study more quickly. One way this could have been remedied was inputting random testing questions to make sure they were paying attention, such as “click ‘strongly agree’ if you’re reading this question right now.” The sample was another issue, including the uneven ratio of males to females who participated, and that all participants were in psychology classes. The uneven ratio, with more female

respondents, could have altered the data particularly with respect to gender differences.

Future research should strive to gain a more even ratio of male to female participants for more accurate results, and a more diverse sample of university undergraduate students outside of psychology to make findings more generalizable. There should also be a wider age range included in further research to determine the developmental trajectories of CDA perpetration. Since early adolescents now are even more connected to the risk of CDA than ever before with the rise of social media and smartphone usage, one might expect them to rate higher on CDA behaviours. Many younger adolescents now have had a mobile phone and access to social media sites since early elementary school. Adolescents may also not realize what CDA is, or that the behaviours they would be asked about are not positively-viewed in society. Thus, they might be more unwittingly honest about their experiences. Additionally, CDA rates from the current study appeared to decrease with older participants so one might expect that research focusing on older individuals may reveal lower instances of CDA, though this finding needs to be expanded upon. The victimization scale of the CDAQ could also be added to expand upon these findings and add to the CDA research field. More research here could be related to the current study's findings on perpetration, and could also help discover predictors of CDA victimization. Additionally, the Friend Reinforcement and CDA Normative Beliefs scales created for this study could be used as guides for further measure development, or be used in further research to see if they are just as reliable there as they were here. Perhaps having friends support these perpetration actions is beneficial in some way to participants, so further research could be conducted to answer this.

Practical Implications

The findings from this study draw attention to the role of friends in dating violence, both offline and online with CDA. It is established that CDA is associated with various negative

effects, including increased drug and alcohol use, increased depression, lowered self-esteem, and increased anger/ hostility levels (Van Ouytsel et al., 2016; Zweig et al., 2014). Many parents and educators may not fully realize that friends impact individuals in powerful ways, including in dating relationships. The idea that a friend simply being there while one is about to perpetrate CDA can increase the likelihood of engaging in that CDA behaviour is important to recognize. Individuals should be more aware of their interactions with friends and how friends can influence them in their dating relationships. Aside from psychological professionals and dating violence researchers, this research is especially useful to anyone currently in a dating relationship and anyone with prior dating experience, as well as to parents, teachers, and clinicians.

Many people lack an understanding of what CDA looks like and what it entails. This study could be used to educate people such as parents on what constitutes CDA. Teachers can use this research in classrooms, particularly among high school students, to educate younger people on what CDA looks like. Knowing what CDA is may encourage unknowing perpetrators to cease the behaviour. One study found that educating people about consequences of dating violence decreased the chances that they would hold further tolerant attitudes (Josephson & Proulx, 2008). Ensuring students know what CDA is and what it looks like is an incredibly important step in decreasing perpetration rates. Furthermore, friends should be involved in the prevention process. This could involve having peers participate in prevention programs together versus alone. From research on attitudes, individuals often overestimate friends' support of dating violence (Bartholomew et al., 2013; Perkins et al., 2011). Perhaps joining prevention programs together might help challenge these beliefs and decrease these overestimations. Confronting individuals with data on attitudes and beliefs could also help decrease perpetration rates. Among clinical populations, findings can be used to provide some explanation for

perpetrators of dating violence and to expand upon the knowledge of what is related to CDA.

Conclusion

Emerging adults are a high-risk population for dating abuse of any kind, including CDA, since most use new technologies and have likely engaged in some form of CDA in their lives. Nearly half of the sample reported checking their partner's mobile phones without permission, and 22% engaged in 6 or more CDA behaviours. Only 15% reported never having engaged in any CDA behaviours. Thus, it is important to examine CDA among this population. The role of friends in emerging adults has been explored in offline dating violence, but not in relation to CDA. This study was also among the very first to study CDA alongside the peer context. Major findings of this study include that friend presence, individual cyberbullying-tolerant attitudes, and belief in CDA norms all significantly predicted the perpetration of CDA.

This study highlighted the fact that friends can often be present during CDA behaviours, which sheds light on the power of friend reinforcement over one's own individual actions, whether an individual believes they are being influenced or not. Two measures were also created for this study, both of which had reliable alpha levels, since no existing measures were specific enough to study in relation to CDA with the peer context. This study also draws attention to CDA in general and the friend role here. Indeed, friends exert a powerful influence on behaviour, even through simple reinforcement actions such as laughing or disapproving inaction. Awareness is a key factor in slowing CDA rates and more research needs to be conducted to help slow the ever-increasing rates of CDA.

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Appendix A

Demographic Questionnaire

Please indicate your age:

18 19 20 21 22 23 24 25 or older

Please indicate your sex:

Male Female Other/ Prefer not to say

What is your cultural background/ ethnicity?

Caucasian Hispanic/Latino African American Native American Asian Other

Please indicate how old you were during your first dating experience:

Under 12 13-15 16-18 18-20 21+

Are you currently in a dating relationship with anyone?

Yes No

In the past 6 months, how many people have you had dating experience(s) with?

1 2 3 4 5 or more

From these people, what were their genders?

Opposite-sex Same-sex Both opposite and same-sex

On average, how long have your most recent dating relationships been?

Less than 1 month 1-2 months 2-3 months 3-4 months 4-5 months 6+ months
1 year 1.5 years 2 years or longer

In the past 6 months, how many of these dating experiences have been long distance?

0 1 2 3 4 or more

Do you consider yourself to be a casual dater?

Yes No In the past, yes

Do you think your friends would consider you to be a casual dater?

Yes No In the past, yes

How many long-lasting/serious dating experiences have you ever had?

0 1 2 3 4 or more

Appendix B

Friend Reinforcement of CDA Questionnaire

Think of your friends in relation to the following questions. Please respond to the following statements using the provided scale:

Never Not Often Sometimes Often Always Not applicable

1. If you have ever spread rumours, gossip and/or jokes through new technologies with the intention of ridiculing your partner, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

2. If you have ever sent insulting or demeaning messages to your partner using new technologies, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

3. If you have ever checked a partner's mobile phone without permission, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

4. If you have ever checked your partner's social networks, Whatsapp or email without permission, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

5. If you have ever checked your partner's last connection in mobile applications, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

6. If you have ever used your partner's passwords to browse their messages and/or contacts without permission, how often was a friend present?

Never Not Often Sometimes Often Always Not applicable

To what extent did your friends support this behaviour?

Not at all Not very much Neutral Somewhat Very much

Appendix C

CDA Normative Beliefs Questionnaire

The statements on this questionnaire describe normative beliefs about dating behaviours in an online context. There are no right or wrong answers. It is important that you answer each question as honestly as possible.

Please indicate your agreement with the following statements using the provided scale:

1	2	3	4	5
Strongly Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Strongly Agree

It is okay to check up on a partner online or check their phone if ...

1. If they do something to make you mad
2. If they insult you in front of your friends
3. If they hang out with their friends more than they do with you
4. If they hang out with their friends and don't talk to you about it first
5. If they hang out with your friends more than they do with you
6. If they are acting suspiciously