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Gender matters: Experiences and consequences of digital dating abuse victimization in adolescent dating relationships

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ABSTRACT

Digital dating abuse (DDA) behaviors include the use of digital media to monitor, control, threaten, harass, pressure, or coerce a dating partner. In this study, 703 high school students reported on the frequency of DDA victimization, whether they were upset by these incidents, and how they responded. Results suggest that although both girls and boys experienced DDA at similar rates of frequency (with the exception of sexual coercion), girls reported that they were more upset by these behaviors. Girls also expressed more negative emotional responses to DDA victimization than boys. Although DDA is potentially harmful for all youth, gender matters. These findings suggest that the experience and consequences of DDA may be particularly detrimental for girls.

Dating violence continues to be a pressing social issue for today's youth. It has been defined as actual or threatened physical, sexual, psychological, or emotional abuse of a current or former dating partner, including stalking, and can take place in person or electronically (Center for Disease Control, 2012). Although estimates vary widely, recent national data report that 9.8% of high school aged adolescents experienced physical abuse from a dating partner in the past year (Centers for Disease Control, 2009). Experiencing abuse in early romantic relationships is associated with detriments to physical and mental health, and abuse at a young age has been linked with experiencing further relationship abuse across the lifespan (see Shorey, Cornelius, & Bell, 2008; Zimmer-Gembeck, 2002 for reviews). As digital media use, or the use of social media and mobile phones, becomes increasingly widespread among youth, its role as a context and tool for unhealthy and abusive dating behaviors is being explored (e.g., Borrajo, Gámez-Guadix, & Calvete, 2015, Borrajo, Gámez-Guadix, Pereda, Calvete, 2015; Reed, Tolman, & Ward, 2016; Zweig, Dank, Yahner, & Lachman, 2013a).

Problematic uses of digital media in dating relationships

Digital media use in adolescence is frequent, varied, and integrated into daily life and relationships. Most (77%) of adolescents have a cell phone, and almost all (95%) of teens age 12–17 are on the Internet (Lenhart, 2012). Teens are also avid users of social media. Most (80%) of teens ages 12–17 have a social networking profile (e.g., Twitter) (Lenhart et al., 2010).

Digital media have both positive and negative impacts on young people's social relationships. As a positive force, digital media can facilitate the maintenance and strengthening of relationships, widen social circles, and connect isolated or marginalized youth with on-line communities (e.g., for sexual minority and/or racial minority youth) (McEwan, 2013; Zhao, Grasmuck, & Martin, 2008). However, digital media may also put youth at risk for problematic dating experiences. Digital media have moved previously private dating interactions into public spaces, giving dating partners constant access to each other, providing the ability to monitor a partner's activities, and spreading information instantly to entire social networks (Draucker & Martsolf, 2010; Melander, 2010; Tokunaga, 2010). Mobile phones may create pressure to be "perpetually connected" and make it difficult for partners to manage communication rules and boundaries (Duran, Kelly, & Rotaru, 2011). The experience of digital dating may also be subjective, and qualitative research with teens has shown that there is not yet consensus about what kinds of digital behaviors are "healthy" and "unhealthy" (Stonard, Bowen, Walker, & Price, 2015). The additional exposure of private interactions that are broadcast publicly to social networks may, in severe cases, assist abusive partners in attempts to gain and maintain power and control over their dating partner.

Problematic dating behaviors using social media and mobile phones can include monitoring someone's activities and whereabouts, controlling who they talk to and are friends with, threats and hostility, spreading embarrassing and sexual photos with others, and pressuring for sexual behavior. Drawing from the existing literature, we chose to call these behaviors "digital dating abuse" (DDA) (Futures without Violence, 2009; Reed et al., 2016; Weathers & Hopson, 2015). These problematic behaviors have been alternatively labeled "electronic aggression" (Bennett, Guran, Ramos, & Margolin, 2011; David-Ferdon & Hertz, 2007), and "cyber dating abuse" (Borrajo, Gámez-Guadix, & Calvete, 2015, Borrajo, Gámez-Guadix, Pereda et al., 2015; Zweig, Dank, Yahner, & Lachman, 2013a, 2013b), among other terms (Epstein-Ngo et al., 2014; Korchmaros, Ybarra, Langhinrichsen-Rohling, boyd, & Lenhart, 2013; Lucero, Weisz, Smith-Darden, & Lucero, 2014; Marganski & Melander, 2015).

The emerging literature suggests that DDA is pervasive among adolescents. Among high school students, over 1 in 4 reported being a victim of digital dating abuse (Zweig et al., 2013a). Another report found that 46% of 615 youth age 14–19 had perpetrated DDA (Korchmaros et al., 2013). The review by Stonard, Bowen, Lawrence, and Price (2014) reported that findings of DDA victimization rates ranged from 12 to 56%, and rates of DDA perpetration ranged from 12 to 54%. While differences in samples and DDA measurement may account for some of this variation, these rates are roughly comparable to off-line reports of dating violence (Stonard et al., 2014).

In our conceptualization of DDA, we typically focus on a *pattern* of behaviors rather than isolated negative relationship behaviors; however, we recognize that some behaviors can be harmful and abusive if they occur only once (e.g., pressure to engage in sexual activity, threats of physical harm through digital messages). Intent to harm is an important element of abuse, but behaviors occurring outside of the conscious or explicit intent to harm might also be abusive. Studies have also shown that digital dating abuse behaviors were associated with and predict off-line psychological and physical dating violence among adolescents and college students (Brem, Spiller, & Vandehey, 2014; Epstein-Ngo et al., 2014; Marganski & Melander, 2015; Reed et al., 2016; Zweig et al., 2013a). These studies support that digital media may be a new context for dating violence, and DDA can exist within a constellation of problematic off-line abuse tactics.

Gender and digital dating abuse

Research on rates of dating violence by gender are mixed. Many studies report equal rates of perpetration by boys and girls (Archer, 2000; Halpern, Oslak, Young, Martin, & Kupper, 2001; White, 2009), whereas other research reports higher rates of sexual abuse perpetration by boys and higher perpetration of verbal, emotional, and physical abuse by girls (Espelage, Low, Anderson, & De La Rue, 2014; Forke, Myers, Catallozzi, & Schwarz, 2008). However, girls have been found to be more likely to experience severe dating violence, suffer injuries as a result of dating violence, and experience greater psychological distress resulting from victimization (Arriaga & Foshee, 2004; Foshee, Bauman, Linder, Rice, & Wilcher, 2007; Molidor & Tolman, 1998), indicating that gender differences in dating violence are complex (White, 2009).

These mixed gender findings are also reflected in DDA research among adolescents and college students (Bennett et al., 2011; Reed et al., 2016). Men and boys may be more likely to engage in threatening and pressuring digital behaviors, especially those involving sex, whereas other research suggests that girls may use monitoring and possessive behaviors more frequently (e.g., Lucero et al., 2014; Stonard et al., 2015). Reed et al. (2016) found that college men were more likely than college women to report threatening to distribute embarrassing digital information about their dating partner and were more likely to report pressuring their dating partner to take a sexual photo or video. Zweig et al. (2013a) found that adolescent boys were also more likely than girls to perpetrate sexual DDA behaviors (e.g., pressure to send sexual photos).

Responses to DDA experiences may also differ by gender. Bennett et al. (2011) found that college men reported lower levels of anticipated distress from intrusive digital dating behaviors than women. Reed et al. (2016) found that women reported more negative emotional responses (such as "embarrassed" and "scared") to receiving a sexual digital photo than did men. In a focus group study of 23 teens by Lucero et al. (2014), girls tended to normalize frequent digital monitoring behaviors, whereas boys frequently discussed their frustration with these behaviors. Girls also discussed password sharing as a sign of trust, albeit with some potential consequences, whereas boys talked about password sharing with more trepidation (Lucero et al., 2014). These findings were supported by a recent focus group study of 52 adolescents by Stonard et al. (2015), in which

teens reported that girls were more likely to instigate more controlling and monitoring digital behaviors. Furthermore, Stonard et al. (2015) found gender differences in perceived severity of DDA versus face-to-face dating violence, with boys being more likely to report that DDA was less serious. Girls in this focus group study, conversely, reported that DDA may be more serious than face-to-face abuse because the digital nature of these behaviors gives more opportunities for abuse and is harder to ignore or escape (Stonard et al., 2015). Research that asks questions about the negative emotional consequences of DDA, anticipated distress resulting from DDA, or sexually coercive types of DDA illuminate that girls likely fare worse from DDA experiences than boys (Bennett et al., 2011; Lippman & Campbell, 2014; Reed et al., 2016; Zweig et al., 2013a).

Hypotheses

Digital dating abuse (DDA), or dating violence in the digital media context, is a common and harmful occurrence for today's youth. Preliminary evidence suggests that the experience of DDA may differ significantly by gender. However, existing findings about gender differences are mixed and offer little insight into the context of these experiences. Several limitations of the current literature have been identified, including: 1) asking participants to report any DDA behaviors they have ever experienced, or have experienced in the past year (e.g., Bennett et al., 2011; Reed et al., 2016) without knowledge of whether these experiences occurred in one relationship or with several partners; 2) asking participants only to report *if* and *how often* DDA behaviors occurred, without inquiring about how participants *felt about* or interpreted these behaviors; and 3) making claims of gender differences or gender symmetry based on these frequency reports alone.

The current study addressed these limitations by examining the experience and consequences of DDA victimization in high school dating relationships. We asked participants to think only about their "current or most recent dating partner" when responding to items. Asking questions in this way allowed participants to focus on a single relationship that is most recent in their memory, hopefully increasing the accuracy of responses. This method was adapted from research by Zweig et al. (2013a,b). Furthermore, we asked participants several follow-up questions for each DDA behavior reported, inquiring about how participants *felt* about and *responded* to the most recent incident of each DDA behavior (see Molidor & Tolman, 1998 for a similar method assessing off-line abuse). This innovation is an important step to help the field move beyond measuring dating violence using "checklists" of behaviors devoid of the experience and consequences. This method also allowed us to explore the impact of DDA behaviors, rather than assuming that all participants experience DDA in the same way.

Our research questions and hypotheses were as follows:

1) *How common is DDA and what types are experienced most by adolescents?* We hypothesized that DDA would be common among adolescents, as has been reported in previous research, and we used a modified measure to assess DDA types for this high school sample.
2) *Are there gender differences in frequency of DDA victimization?* We expected, based on previous research, that girls would report more frequent victimization of sexually coercive DDA behaviors. Previous research has been less clear on whether girls or boys are more likely to experience digital direct aggression and monitoring/control.
3) *Are there gender differences in emotional and behavioral responses to DDA victimization?* Building upon the finding in Bennett et al. (2011) that women reported more anticipated *hypothetical* distress from DDA, we predicted that girls in the current study would report more *actual* distress from all types of DDA victimization. Based on Molidor and Tolman (1998), we also predicted that girls would be more likely to report negative emotional responses to DDA victimization (e.g., crying, being sad/upset) and boys would be more likely to report dismissive emotional responses (e.g., laughing, ignoring it).

Method

Design

We conducted a cross-sectional self-report survey study of 9th-12th grade students at a large suburban Midwestern high school campus. Students were recruited from classes in which teachers agreed to cooperate with the study. Effort was taken to get a representative sample of students in various grade levels and across both required core curriculum courses (e.g., Health) and elective courses.

Procedure

We distributed parent/guardian consent forms (if participants were under the age of 18) and assent forms to all students in the classrooms of cooperating teachers, yielding a 67.28% response rate for returned forms. Participation was voluntary and anonymous, and students received a $5 gift card as compensation. Data collection took place in a library media center where students completed surveys at school computers, under the supervision of the first author, between December 2013 and March 2014.

Sample

Students completed 947 valid surveys, a 93% completion rate for students who began the survey. Seven surveys were deemed duplicates and removed. Participants ranged in age from 13 to 19, and 91.6% were aged 14–17. The majority identified as young women (56%). As to race/ethnicity, respondents identified as White (72.2), Black (7%), Asian (6.7%), Middle Eastern (4.7%), Latino/a (1.7%), and Multi-racial (5.6%). Sophomores and juniors were underrepresented in the sample, with 29.3% Freshmen, 12.8% Sophomores, 20.1% Juniors, and 29.2% Seniors completing surveys. The distribution of grade level and race/ethnicity of participants was similar to school-wide demographics (See Reed et al., 2016 for more information on school demographics). Some participants (12.7%) reported participation in a free or reduced lunch program. Almost all participants (96.2%) own a cell phone, 90.7% of cell phone users have a "smartphone," and all have access to a home computer. Three quarters (74.2%) reported that they have had at least one dating partner, and 27.1% were currently in a dating relationship at the time of the survey. Two participants identify as transgender or gender queer, and 4.7% of girls and 2.2% of boys are/were recently in a relationship with a same-sex partner.

Measures

Demographics

Students were asked to report their age, gender identification, race/ethnicity, parents' marital status, religiosity, whether they participate in a free or reduced lunch program (as a proxy for socioeconomic status), and whether they have access to digital media devices.

Texting, internet, and social media use

Respondents reported their frequency of daily text messaging with a 7-point response scale ranging from "No text messages" to "More than 300" text messages. Participants with dating experience rated text messaging with their current/most recent dating partner on a typical day with a 6-point response scale ranging from "Never" to "Several times an hour." To assess Internet use, participants reported on how often they used the Internet and how many hours on a typical weekday and a typical weekend they spent social networking. Responses about weekday use were multiplied by five, and added to responses about the weekend use to create a variable of "hours/week of social networking." Respondents rated preferences for and use of (e.g., logging on to check updates, posting, reading your feed) various social media (including Facebook, Twitter, Snapchat, and Instagram) on an 8-point scale from "Never" to "Several times a day."

Dating experience

We assessed participants' dating experience using 12 items related to dating and sexual behaviors and sexual attraction. Dating partner was defined in this survey as "… ANY of the following: a boyfriend or girlfriend, someone you are a 'thing' with, someone you have dated or are currently dating (e.g., going out with without being supervised), someone who you like or love **and** spend time with, or a relationship that might involve sex." We asked, "Have you EVER had a dating partner?" and if yes, "Are you CURRENTLY in a dating relationship?" If participants answered, "Yes," we also asked, "How long have you been in this relationship?" with a 5-point response scale ranging from "Less than a month" to "More than a year." We asked participants who were NOT currently in a dating relationship to report on a past relationship via the following two questions: "When did your last relationship end?" using a 6-point scale ranging from "Less than a month ago" to "More than two years ago; " and "How long was your last relationship?" using a 5-point scale ranging from "Less than a month" to "More than a year." All participants were asked to indicate the gender of their current/most recent dating partner using response options, "Woman," "Man," and "Transgender/gender queer."

Digital dating abuse

Digital dating abuse (DDA) was measured with an instrument modified from Reed et al. (2016). Participants responded to 18 parallel victimization and perpetration items. Participants reported on their experiences in their *current or most recent dating relationship* only. These modifications and the conceptualization of subscales were drawn from our own survey and focus group research, national surveys (e.g., Picard, 2007; The National Campaign to Prevent Teen and Unplanned Pregnancy and Cosmogirl.com, 2008; Tolman, 1999), and related measures (Borrajo, Gámez-Guadix, & Calvete, 2015, Borrajo, Gámez-Guadix, Pereda et al., 2015; Bennett et al., 2011; Zweig et al., 2013a; 2013b).

For each of the 18 DDA victimization items, participants were given the following prompt: "Using the Internet or a cell phone, my dating partner …" and example items included, "Pressured me to sext (sending a sexual or naked photo of myself)" and "Looked at my private information (text messages, emails, etc.) to check up on me without my permission." Responses were made via a 4-point Likert scale anchored by "Never" and "Very often." For each of the 18 DDA perpetration items, participants were given the following prompt: "Using the Internet or a cell phone, I …" The victimization and perpetration items referred to the same behaviors, with the items re-worded to reflect victimization or perpetration (see Table 1 to view all items).

Three conceptual subscales were created from the DDA measure. Direct Digital Aggression Victimization ($\alpha = 0.81$) and Direct Digital Aggression Perpetration ($\alpha = 0.81$) subscales each included 8 items assessing the experience of intentional

Table 1
Percentage of digital dating abuse behavior reporting by subscale and gender.

Using the Internet or a cell phone, my current/most recent partner …	Total Victimization	Girls (N = 382)		Boys (N = 314)	
		Victimization	Perpetration	Victimization	Perpetration
Digital Sexual Coercion (victimization: α = 0.70, perpetration: α = 0.67)					
Pressured to "sext"	21.9%	25.1%	6.3%	17.8%	22.3%
Sent a sexual/naked photo that the partner did not want/ask for	12.1%	12.3%	9.2%	11.5%	8%
Sent a sexual or naked photo/video to others without permission	3.7%	2.1%	3.7%	5.4%	8%
Pressured to have sex or do other sexual activities	19.9%	23.8%	5.2%	15%	18.8%
Overall Digital Sexual Coercion	**32.2%**	**34.3%**	**16.9%**	**29.6%**	**34%**
Digital Direct Aggression (victimization: α = 0.81, perpetration: α = 0.73)					
Shared an embarrassing photo or video with others without permission	20.9%	20.9%	24.3%	21%	24.8%
Sent a mean or hurtful PRIVATE message	23.9%	25.7%	25.9%	21.7%	16.2%
Posted a mean or hurtful PUBLIC message	10.8%	9.2%	6.8%	13.1%	6.4%
Spread a rumor	13.8%	12.6%	5.8%	15.6%	6.7%
Sent a threatening message	7.1%	6.5%	2.6%	8%	3.8%
Threatened to physically harm	5%	4.2%	1%	6.1%	2.2%
Used cell phone or online account to pretend to be me/my partner	9.4%	8.1%	2.4%	10.8%	5.4%
Used information from a social networking site to tease or put down	12.4%	12.8%	7.9%	12.1%	7.6%
Overall Digital Direct Aggression	**46.3%**	**48%**	**45%**	**44.2%**	**37.1%**
Digital Monitoring/Control (victimization: α = 0.83, perpetration: α = 0.76)					
Pressured to respond quickly to calls, texts, or other messages	31%	29.8%	27.5%	32.2%	20.1%
Monitored whereabouts and activities	27.6%	28.8%	33%	26.1%	22.3%
Sent so many messages that I/my partner felt uncomfortable	19.5%	18.8%	5.2%	20.7%	9.9%
Pressured for passwords to access cell phone or online accounts	11.9%	11%	6.8%	13.1%	5.1%
Looked at private information to check up on me/my partner without permission	17.4%	17.5%	16.5%	17.2%	12.4%
Monitored who I/my partner talks to/is friends with	32.6%	33.8%	33.2%	31.2%	24.2%
Overall Digital Monitoring/Control	**53.8%**	**54.9%**	**51.3%**	**52.6%**	**40.7%**

behaviors meant to hurt, humiliate, or threaten a dating partner using social media or a mobile phone. Example items include, "Sent me a threatening message" and "Posted a mean or hurtful PUBLIC message about my partner that others could see (such as a group text, Facebook wall post, subtweet, etc.)." Digital Monitoring/Control Victimization (α = 0.83) and Digital Monitoring/Control Perpetration (α = 0.76) subscales included 6 items assessing the use of social media and mobile phones to keep track of, intrude on the privacy of, and control the activities and relationships of a dating partner. Example items included, "Monitored my whereabouts and activities" and "Looked at my partners' private information (text messages, emails, etc.) to check up on them without their permission." Digital Sexual Coercion Victimization (α = 0.70), and Digital Sexual Coercion Perpetration (α = 0.67) subscales were each comprised of 4 items involving pressuring a dating partner for on-line or off-line sexual behavior and engagement in unwanted distribution of sexual images. Example items included "Pressured me to sext (sending a sexual or naked photo of myself)" and "Sent a sexual or naked photo or video of my partner to others without their permission."

These subscales were developed based on the validation of a measure created by Borrajo, Gámez-Guadix, Pereda et al. (2015) and an existing DDA measure (Reed et al., 2016). The measure by Borrajo, Gámez-Guadix, Pereda et al. (2015) included only two subscales, digital direct aggression and digital monitoring/control. Our previous work on DDA with college students indicated that sexual DDA behaviors were common among young adults, were associated with negative emotions for young women, and were associated with off-line physical, sexual, and psychological dating violence (Reed et al., 2016). Therefore, we also included a subscale of digital sexual coercion.

A central innovation of the DDA measure in the current study is the addition of follow-up questions for the 18 DDA victimization items. For each DDA behavior reported, participants were asked "Thinking about the LAST TIME this happened, how much did this upset you?" with response items: "not at all," "a little," "some," and "a lot." This item became a measure of *digital dating abuse victimization distress*. We also asked participants "How did you respond? (check all that apply)" for each behavior, and provided a list of 15 possible emotional and behavioral responses including "I laughed," "I cried," "I ignored it," "I was sad or upset," and "I yelled at them or argued with them." Participants could also fill in their own response.

Results

Preliminary analyses

All analyses were conducted only with participants who had dating experience. Of the 703 participants with dating experience (382 girls, 314 boys, 2 identifying with another gender expression), 36.4% were in a dating relationship at the time of the survey. For those currently dating, relationship lengths ranged from less than a month (18.4%), 1–3 months (19.9%), 3–6

months (13.3%), 6—12 months (17.6%), and more than a year (30.9%). Those with past dating relationships reported their most recent relationship ended less than a month ago (13.5%), 1—3 months ago (14.6%), 3—6 month ago (16%), 6—12 months ago (21.4%), 1—2 years ago (25.7%), and more than two years ago (7.9%). Past relationships varied in length from less than a month (16.7%), 1—3 months ago (36%), 3—6 months ago (20.9%), 6—12 months ago (14.6%), and more than a year ago (10.8%).

In terms of electronic access for the subsample, 96.2% own a cell phone, and 97.4% have access to a computer at home. Participants reported sending and receiving an average of 51—100 text messages per day, and spent an average of 22.4 hours per week using social media. Most participants reported that they text/texted their current or most recent dating partner frequently; 18.5% text daily, 26.1% text several times a day, and 40.2% text several times an hour. There were no gender differences in reported frequency of texting, but girls spent more time ($M = 19.44$ h, $SD = 19.44$) per week on social media than boys ($M = 16.72$ h, $SD = 16.72$), $t(689) = 7.39$, $p < 0.000$.

RQ1 and 2: How often are girls and boys experiencing DDA in their relationships?

Zero order correlations were conducted among all DDA variables and several demographic variables including age, race/ethnicity, religiosity, participation in a free or reduced lunch program, sexual orientation, and grade point average. After correcting for multiple tests by setting the p-value to 0.01 to minimize Type II error, we found that none of the demographic variables were significantly correlated with DDA variables.

Table 1 shows all DDA items by subscale with frequency rates of each item. The most commonly reported victimization behaviors were from the digital monitoring/control subscale, as 53.8% of participants reported one or more of these behaviors. The most common monitoring/control subscale behaviors included "Pressured to respond quickly to calls, texts, and other messages" (31.0%) and "Monitored who I talk to and are friends with" (32.6%). The frequency of other DDA subscales are still notable, as 46.3% of participants reported digital direct aggression and 32.2% reported digital sexual coercion. Common items from other subscales included "Sent a mean or hurtful PRIVATE message" (23.9%) and "Pressured to 'sext'" (21.9%).

To test gender differences in DDA victimization, we conducted independent samples t-tests on the three DDA victimization subscales by gender. Fig. 1 shows the mean frequency scores for DDA victimization for girls and boys (frequency scale ranged from 0-3). Digital monitoring/control was the most frequently reported type of DDA victimization for both girls ($M = 0.39$, $SD = 0.56$) and boys ($M = 0.41$, $SD = 0.59$). Digital direct aggression victimization was the least frequently reported type of DDA for girls ($M = 0.19$, $SD = 0.33$) whereas digital sexual coercion was the least frequently reported DDA type for boys ($M = 0.19$, $SD = 0.39$). There was a significant difference in the mean frequency score for digital sexual coercion victimization, such that girls ($M = 0.26$, $SD = 0.46$) were more likely than boys ($M = 0.19$, $SD = 0.39$) to report digital sexual coercion victimization, $t(684) = 2.07$, $p = 0.039$. There were no significant differences in girls' and boys' frequency reports of digital direct aggression or digital monitoring/control.

RQ3: Are there gender differences in distress resulting from DDA victimization?

We also conducted t-tests to investigate gender differences in distress resulting from the three DDA victimization types (see Fig. 2). Girls found digital monitoring/control to be the least upsetting type of DDA ($M = 1.03$, $SD = 0.87$) and boys found digital sexual coercion to be the least upsetting type of DDA ($M = 0.52$, $SD = 0.79$). After reporting a DDA victimization experience, participants were given the follow-up question, "The last time this happened, how upset were you?" As predicted, there were significant gender differences in reported distress for all three types of DDA victimization. Girls responded that they were more upset than boys by every type of DDA behavior. Girls ($M = 1.49$, $SD = 1.00$) reported being more upset than boys ($M = 0.53$, $SD = 0.79$) about recent incidents of digital sexual coercion victimization, $t(220) = 7.59$, $p < 0.000$. Girls
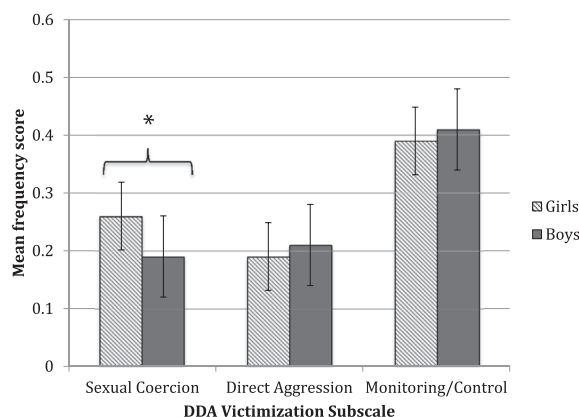

Fig. 1. Frequency of DDA Victimization and Perpetration among girls and boys. Note. *$p < 0.05$, ***$p < 0.000$.
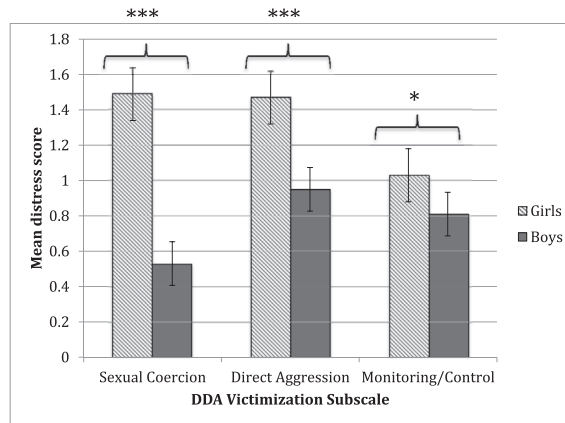
Fig. 2. Mean level of distress from DDA Victimization among girls and boys. Note. $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.000$, $t(220) = 7.59$, $p < 0.000$, $t(362) = 5.01$, $p < 0.000$, $t(338) = 2.42$, $p = 0.016$.

($M = 1.47$, $SD = 1.02$) were also more distressed by digital direct aggression than boys ($M = 0.95$, $SD = 0.91$), $t(362) = 5.01$, $p < 0.000$. Finally, girls ($M = 1.03$, $SD = 0.87$) were more distressed by experiences of digital monitoring/control than boys ($M = 0.81$, $SD = 0.75$), $t(338) = 2.42$, $p = 0.016$.

RQ4: How are girls and boys responding to DDA behaviors in their relationships?

Participants reported on their emotional and behavioral responses to the most recent incident of each DDA victimization behavior reported. Table 2 shows the possible emotional and behavioral responses grouped into four conceptual categories: Dismissive (emotional), Distressed (emotional), Blocking access (behavioral), and Engagement (behavioral). Table 3 shows how many girls and boys reported one or more responses in each category. It should be noted that participants could select multiple responses, and responses options for each item varied slightly. Using chi square analyses, we compared the percent of girls and boys who reported each type of response to DDA victimization experiences. Significant gender differences are indicated in Table 3.

Looking at emotional responses to each DDA item, chi square analyses found several gender differences. Girls reported more distressed responses for several DDA behaviors across the sexual coercion and direct aggression subscales. More girls than boys had distressed responses to the following behaviors: "Pressured me to sext," "Sent a sexual or naked photo of himself/herself that I did not want," "Pressured me to have sex or do other sexual activities," "Sent me a mean or hurtful PRIVATE message," "Spread a rumor about me," "Sent me a threatening message," "Shared an embarrassing photo or video

Table 2
Description of four categories of emotional and behavioral DDA responses.

	Possible Response Items
Emotional Response Categories	
Dismissive	I laughed.
	I ignored it.
Distressed	I cried.
	I worried for my safety.
	I was sad or upset.
	I was angry.
	I was embarrassed.
Behavioral Response Categories	
Engagement	I yelled at them or argued with them.
	I tried to talk to them about the incident.
	I "got them back" by doing something mean to them using the Internet or a cell phone.
	I threatened to break up with them.
	I told someone about what happened.
	I told them "No"
Blocking Access	I blocked them on a social networking site.
	I deleted or blocked their number on my cell phone.
	I avoided them in person.

Table 3
Girls' and boys' emotional and behavioral responses to most recent incident of DDA.

	Emotional-Dismissive		Emotional-Distressed		Behavioral-Blocking Access		Behavioral-Engagement	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Digital sexual coercion								
Pressured me to "sext"	57.6%	60.4%	40.7%**	17%	18.9%	13.5%	40%**	13.5%
Sent a sexual/naked photo that I did not want/ask for	75.6%	75.8%	30%*	9.1%	20%	9.1%	28.9%	30.3%
Sent a sexual or naked photo/video to others without permission	71.4%	53.3%	14.3%	46.7%	28.6%	7.1%	42.9%	21.4%
Pressured me to have sex or do other sexual activities	37.5%	35.7%	35.6%*	14.3%	8%	7.7%	27.6%	20.5%
Digital direct aggression								
Shared an embarrassing photo or video of me with others without permission	78.2%	89.1%	**44.8%***	**26.6%**	7.8%	12.5%	28.6%	20.6%
Sent me a mean or hurtful PRIVATE message	**26.3%**	**42.6%***	**78.8%***	**57.4%**	**36.8%***	**11.5%**	60.9%	45%
Posted a mean or hurtful PUBLIC message	34.3%	54.3%	62.5%	48.6%	37.1%	20%	**60.6%***	**33.3%**
Spread a rumor about me	42.1%	45.2%	**69.4%***	**42.9%**	42.1%	37.5%	59.5%	46.2%
Sent me a threatening message	28%	43.5%	**80%***	**39.1%**	**50%***	**21.7%**	66.7%	52.2%
Threatened to physically harm me	23.1%	57.1%	66.7%	42.9%	46.2%	25%	54.5%	27.3%
Used cell phone or online account to pretend to be me	54.8%	66.7%	30.8%	30%	0%	3.4%	36.7%	24.1%
Used information from a social networking site to tease or put me down	**56.3%**	**81.3%***	**50%***	**25%**	11.6%	10.3%	34.9%	17.2%
Digital monitoring/control								
Pressured me to respond quickly to calls, texts, or other messages	75%	66.7%	22.8%	23.3%	10.3%	4.6%	29.9%	28.7%
Monitored my whereabouts and activities	61.2%	61.5%	33.7%	29.2%	6.9%	14.1%	34.3%	26.6%
Sent so many messages that I felt uncomfortable	70.1%	68.4%	13.1%	22.8%	23.9%	15.8%	**40.3%***	**24.6%**
Pressured me for passwords to access my cell phone or online accounts	67.5%	60.6%	28.1%	21.2%	0%	3.2%	22.2%	25.8%
Looked at my private information to check up on me without permission	38.5%	44.7%	48.9%	46.8%	**1.6%**	**14.9%***	51.6%	37%
Monitored who I talk to/are friends with	48.7%	50.6%	41%	29.6%	9.3%	10%	**50%***	**32.5%**

Note. Percentages are calculated from number of participants who reported each DDA behavior and received this follow-up item. Asterisks and bolding indicate significant sex differences, with asterisk placed by higher percentage. $*p < 0.05$, $**p < 0.01$, $***p < 0.000$.

of me with others without my permission," and "Used information from my social networking site to tease me or put me down."

Girls were also more likely to engage in behaviors to block their partner's access to them in response to the DDA direct aggression behaviors: "Sent me a mean or hurtful *private* message," and "Sent me a threatening message." Boys blocked their partner's access to them more often than girls in response to the monitoring/control behavior: "Looked at my private information to check up on me without permission." Girls were also more likely than boys to report engagement responses, either engaging with their partner or with others by telling someone what happened, across all three subscales, including: "Pressured me to sext," "Posted a mean or hurtful *public* message about me that others can see using social media," "Sent so many messages that it made me feel uncomfortable," and "Monitored who I talk to/are friends with."

Overall, girls were more likely to report negative emotional and active/protective behavioral responses to DDA victimization across all three subscales. Although there were few gender differences in the frequency of DDA victimization in this sample, these data show many differences in girls' and boys' responses to experiencing the same DDA behaviors.

Discussion

DDA frequency

Consistent with previous literature on DDA, the current study found that digital monitoring/control was the most frequently reported type of DDA, and that girls reported more frequent digital sexual coercion victimization than boys (e.g., Bennett et al., 2011; Borrajo, Gámez-Guadix, Pereda et al., 2015; Reed et al., 2016). Gender differences were also found for frequency of DDA perpetration, such that girls reported more frequent digital monitoring/control and boys reported more frequent digital sexual coercion.

It should also be noted that although most participants reported some DDA behaviors in their current or most recent relationship, the frequency of these behaviors in these relationships was relatively low (see Fig. 1), ranging from 0.19 to 0.41 on a 0–3 scale. This is, to some extent, to be expected. We would anticipate that the majority of high school dating relationships would include isolated incidents of DDA behaviors, whereas a relatively small percentage would be experiencing a repeated pattern of DDA behaviors indicative of an abusive relationship.

Girls' and boys' responses to DDA behaviors

Consistent with our predictions, girls were more upset by DDA victimization experiences than boys for all three types of DDA. Additionally, boys were more dismissive of digital direct aggression victimization, and girls were more likely than boys to report distressed emotional responses to digital sexual coercion and direct aggression. These gender differences indicate that the emotional experience of DDA is different for girls and boys, with girls, on average, suffering worse emotional consequences from some DDA experiences. These results mirror and extend findings from studies of off-line dating violence in which girls reported responding to victimization with emotional distress (e.g., crying) whereas boys are more likely to report laughing or walking away from instances of abuse (Molidor & Tolman, 1998).

We also asked about behavioral responses to DDA behaviors. To our knowledge, this is the first study to explore on-line and off-line behaviors in response to DDA victimization. Girls were more likely to respond to digital direct aggression by blocking communication with their partner, and boys were more likely to respond this way to digital monitoring/control behaviors. These results for blocking behaviors seem to fall along gendered lines. Blocking communication could mean many things; participants could be simply annoyed by the DDA behaviors and wish to cut off contact, or the DDA behaviors may be making them feel uncomfortable or afraid. Based on our results showing that girls are more distressed by DDA victimization than boys, perhaps girls are more likely to block communication due to fear or discomfort. It is therefore fitting that they are more likely to block communication after experiencing digital direct aggression to prevent further hostility. Boys, conversely, may be annoyed by their partners' attempt to monitor their online activities and snoop into their privacy and respond with blocking behaviors. As socialized gender scripts dictate that girls will be possessive and jealous in dating relationships (e.g., Kim et al., 2007; Lucero et al., 2014), high school boys may be particularly sensitive to this type of control from female partners.

Bennett et al. (2011) speculated that as participants in their sample of college students experience more DDA, cognitive dissonance caused them to anticipate DDA behaviors to be increasingly less distressing. Our findings concerning actual distress experienced from DDA victimization among high school students did not support this explanation of their hypothetical results. One possible reason that our results differed is that participant responses in Bennett et al. (2011) may have been heavily influenced by the hypothetical nature of their distress items, whereas our items asked about actual distress from the most recent incident of each type of behavior.

These findings support the notion that digital dating is a gendered interaction, one in which girls are more likely to experience emotional consequences and engage in protective behaviors after DDA experiences. However, boys seem to be particularly reactive to digital monitoring/control, and more dismissive of digital direct aggression from their dating partners.

How might we explain these gender differences in light of the role of gender in dating violence more broadly? Despite mixed results for gender differences in the broader dating violence literature, there are important differences in the *experience* of dating violence among girls and boys that prevent this violence from being symmetrical even when frequency rates are equal. Dating violence occurs in a gendered sociocultural context that ascribes strict hierarchical roles for girls and boys (Prospero, 2007). Girls are expected to prioritize being in a dating relationship more than boys, to be more focused on their sexual appeal and appearance, to be sexually passive and restrictive (Kim et al., 2007), and are expected to be more possessive and jealous in relationships. Girls' relationship jealousy and possessiveness is often normalized as a reasonable response to the assumption that men are untrustworthy at best, and sexual predators, at worst (Sears, Sandra Byers, & Lisa Price, 2007; Tolman, Spencer, Rosen-Reynoso, & Porche, 2003). Lucero et al. (2014) posited that girls may therefore be motivated to engage in monitoring behaviors to ensure male partners' fidelity. Boys, conversely, are expected to prioritize sex over relationships, to be assertive in dating interactions, and to see women as sexual objects (Kim et al., 2007). With awareness of these gender stereotypes, boys may respond with begrudging acceptance of girls' possessiveness in dating relationships (Lucero et al., 2014; Tolman et al., 2003).

The current study supports that socialized gender roles also impact digital dating abuse. For example, boys' assumption that girls will be controlling and possessive in relationships may lead boys to dismiss digital monitoring/control behaviors, as these digital behaviors may be seen as "normal" dating behavior for girls (Lucero et al., 2014; Stonard et al., 2015). Additionally, the expectation that boys should treat girls as sexual objects may contribute to higher rates of digital sexual coercion, as boys may feel entitled to have sexual power over girls. The contextual, gendered perspective in the current study suggests that rather than equalizing power dynamics in the absence of physical differences, digital media may reproduce and promote gender stereotypes and inequality during a period when peer acceptance and the importance of dating relationships is at its peak.

Limitations and future directions

Although the current study made several significant contributions to the emerging literature on DDA, there are also limitations that should be considered when interpreting these results. The study utilized self-report and a cross-sectional design. Steps were taken in the procedure to ensure anonymity and confidentiality of responses. However, the self-report nature of the research may invite bias from social desirability concerns or shared method variance. Future research could address these potential limitations by gathering DDA experience data from multiple sources including peers, parents, and school staff, using alternative methods such as qualitative interviews. Future research could also control for social desirability. Additionally, the DDA measure included only one item to assess distress from the most recent incident of each DDA behavior

reported. Future research could include additional items or open-ended responses to gain a richer view of how various DDA behaviors are experienced, including modeling how distress from DDA victimization might change over the course of the relationship or in varying circumstances. However, it helps strengthen our conclusions to have the additional data on emotional and behavioral responses to DDA victimization support the results from the distress item.

DDA occurs within a complex relationship dynamic, and as previous research has asserted, is associated with off-line abuse and risk behaviors (e.g., Reed et al., 2016; Zweig et al., 2013a). Future research should continue to examine contexts around the experience of DDA and broader experiences of victimization and perpetration in youth's lives in order to guide the development of dating violence intervention and prevention efforts. Possible contextual influences could include developmental factors such as age, romantic attachment insecurity, and beliefs about gender and dating relationships. For example, Reed, Tolman, and Safyer (2015) found that higher levels of romantic attachment anxiety were associated with perpetrating digital monitoring/control among college women and men. Future research should test the association between gender beliefs and DDA behaviors to investigate whether these beliefs indeed shape the differential DDA experiences for girls and boys. If this association exists, it would have great implications for targeting rigid ideas about women and men in relationships as a means of digital dating abuse prevention.

It would also be helpful to examine the relationships in which these behaviors occur, as information about the off-line quality and characteristics of the relationship may lend insight into when and how DDA is used and when DDA behaviors are most harmful. This study included almost exclusively heterosexual teenagers, and as research has shown that sexual minority youth are more at risk for dating violence than heterosexual youth, sampling efforts should be taken to study DDA victimization experiences among sexual minority youth (Gillum & DiFulvio, 2012). Research should continue to illuminate the socialized beliefs and developmental factors that teens carry with them into dating relationships, and should reduce the reliance on measures of frequency to draw conclusions about gender dynamics in dating violence. Finally, because our sample was mostly white, heterosexual high school students from a suburban area of Southeast Michigan, we cannot generalize to other populations.

Conclusion

If a DDA behavior is upsetting, causes a negative emotional response, and/or alters behavior, it is of concern to those interested in the intervention in and prevention of dating violence. Research that only reports the frequency of DDA behaviors therefore provides an incomplete picture of DDA experiences among high school students. The current study made an important conceptual contribution to the DDA literature by providing evidence on *which* DDA behaviors are harmful for *which* high school students.

With widespread use of daily digital media among U.S. teens, one might ask whether DDA behaviors are benign modern dating interactions in most circumstances. Although mean distress scores were low overall, indicating that most participants were not distressed by the majority of DDA victimization experiences, there was enough variation to illuminate gender differences in distress for all three types of DDA measured. This finding suggests that although most high school students might see DDA as a normal part of digital dating, some participants (most often, girls) are upset by various types of DDA and may be experiencing a constellation of on-line and off-line abuse behaviors. Our results suggest that although girls and boys both experience digital forms of abuse in their dating relationships, girls may be suffering more severe emotional consequences and off-line behavioral impacts, particularly when experiencing digital sexual coercion. We suggest that the experience and consequences of DDA behaviors, rather than the frequency alone, warrant attention for dating violence prevention efforts.

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