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Final Summary Overview

The Dynamic Context of Teen Dating Violence within Adolescent Relationships

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PURPOSE

The purpose of this project was to establish greater understanding of the relational and situational context of teen dating violence (TDV) within adolescent relationships. Between 10 and 25% of adolescents report past year TDV.¹ TDV victimization increases risk for injury, antisocial behaviors, suicidal ideation and continued violence in adult relationships.²

Interventions have been rapidly developed to address TDV, but the fundamental problem is that most have been created using theory and evidence borrowed from the adult partner violence literature, in part because of the paucity of rigorous longitudinal TDV studies.^{3,4} Specifically, we do not clearly understand what TDV looks like within adolescent relationships, and are left guessing about the answers to even the most basic questions like “How frequently do violent episodes occur in relationships with TDV?” and “Is there a period of increased intimacy after TDV episodes that will stymie interventions unless directly addressed?” **Without this granular information about precisely why and when incidents of TDV occur, we are poorly equipped to design interventions or policies to stop the violence.**

In a seminal cross-sectional study of 956 adolescents, Giordano began to disentangle the complexity of TDV relational context.⁵ Giordano examined the associations between self-reported TDV and intimacy, jealousy and instrumental support. Unsurprisingly, feelings of jealousy were associated with increases in TDV. However, an important and potentially counter-intuitive picture of TDV also emerged. TDV was *more* likely to occur in relationships in which the adolescent received higher levels of instrumental support from her partner; and, consistent with a small number of other studies,^{6,7} there was *no difference* in levels of intimacy between non-violent and violent relationships. Giordano theorized that enmeshment in these intimate relationships may make it difficult for adolescents to end violent relationships.⁵ Although this

study is extremely helpful, it has important limitations. Asking about relationship perceptions and TDV at a single time point cannot determine causal order or the sequence of events that lead to escalation of violence within adolescent relationships.^{5,8}

A handful of longitudinal studies demonstrate significant relationships between alcohol and substance use and TDV.⁹⁻¹¹ As with relational context, however, even well-designed longitudinal studies examining alcohol and substance use and TDV tend to base conclusions on data from summary recall measures, with one notable exception. A cohort of 184 college students involved in dating relationships used daily electronic diaries to answer questions about dating violence perpetration and alcohol use for 60 days.¹² The odds of emotional and physical dating violence perpetration increased substantially on days that alcohol was consumed.¹² Generalizability of this work is limited, however, because the sample consisted of primarily White, educated, older adolescents.

This project therefore aimed to fill a critical gap by using innovative longitudinal data collection to overcome limitations of previous TDV studies. Specifically, participants in the study were asked to provide daily diary entries using their Smart Phones. We selected this methodology based on the concern that more traditional study designs may mask critical insight into the dynamic nature of adolescent dating relationships and risk behaviors. Fundamental benefits of daily diaries as compared to monthly or quarterly assessments include: 1) summary recall measures often miss important day-to-day variations in relationship perceptions and in self-reported risk behaviors; and 2) day-to-day fluctuations in relationship perceptions significantly can predict negative health outcomes. In contrast, daily diary data facilitates capture of the true degree of variation in adolescents' feelings, perceptions and behavior.

PROJECT OBJECTIVES

Amongst a sample of primarily African American, urban adolescent females in a current dating relationship with any self-reported TDV, we used prospective, longitudinal data from daily diaries to:

- 1) Determine the type(s), frequency and patterns of TDV within the dating relationships in our sample;
- 2) Determine, within dating relationships, the daily (same day, previous and next day) associations between adolescent females' perceptions of intimacy, jealousy, and provision of instrumental support and reports of TDV victimization and perpetration; and
- 3) Determine, within dating relationships, the daily (same day, previous and next day) associations between females' reports of their own and their partners' alcohol and drug use, and reports of TDV victimization and perpetration.

Examining relationship context may be particularly salient for urban adolescents of color. Prior research on relationship context has not focused on minority populations, so research illuminating the context of romantic relationships for adolescents of color is particularly lacking. There is some evidence to suggest that Black urban adolescent females desire a monogamous partner; however, due to high rates of male mortality and incarceration in these communities, limited male dating options may lead to increased tolerance of unhealthy behaviors like TDV.⁹ Thus, the focus of this project was urban, predominantly African American females.

PROJECT DESIGN AND METHODS

Setting & Subjects

Prior to beginning the project, study staff drove extensively through neighborhoods across the city of Baltimore, speaking with residents as well as observing the settings, to

establish areas where young women were most likely to congregate. These “field notes” were compiled to create a directory of key neighborhoods to target for recruitment.

Recruitment began in September 2014 and ended in June 2016. Using a study van, a retrofitted recreational vehicle that had two private interview rooms and a small waiting area, study staff travelled predominantly on evenings and weekends to these community venues. Study staff distributed flyers to females who appeared to be in the target age range while they were near the research van.

Interested individuals were directed to a research assistant (RA) to receive an overview of the study. If the participant wanted to learn more, she provided oral consent before being asked the screening questions which assessed age, language preference, area of residence, relationship status and experiences with TDV. Eligibility criteria included that the youth must: (1) be a 16-19-year-old adolescent female; (2) speak English fluently; (3) live within the city of Baltimore; and (4) be in a current dating relationship with a male partner and with at least one episode of TDV in the past month. Participants with chronic, debilitating conditions that limited function or cognition were excluded from the sample. All potential participants received appropriate resources including national dating violence hotline numbers. Eligible, interested youth were asked to sign written informed consent. They also were offered a letter explaining the study to a parent or caregiver.

Data Collection

Participant Contact Information: Recognizing that we were recruiting a potentially hard-to-reach population, and were asking them to engage in intensive data collection, we requested that each participant provide their telephone number(s) and address as well as the contact information of two safe family members or friends which we could call if we were unable to reach the

participant. If a participant did not complete a diary entry for ≥ 3 days, she was contacted by the study team who explored why she had not been responding and problem solved (e.g. lost personal identification number (PIN) as needed).

Compensating Participants' Time: Participants were given \$25 to compensate for time spent taking the baseline Audio Computer Assisted Self-Interview (ACASI) assessment. They received \$60 per month for the daily diaries, which was equivalent to the cost of maintaining an adequate phone plan with texting features. Youth without a Smart Phone were offered one in lieu of the \$60.

Baseline Survey: Immediately following enrollment, participants completed a survey using ACASI technology on a computer in the study van. This assessment lasted 30-45 minutes, depending upon the number of partners listed by the participants. Data were stored in a de-identified, protected database.

The baseline survey included questions about demographics (e.g., age, race/ethnicity, grade in school/highest completed education, mother's and father's education, mother's and father's occupational status, family structure, and current living situation), family conflict, mental health, TDV, relationship history, and relationship characteristics (Table 1).

Table 1: Baseline ACASI Measures	
<i>Demographics</i>	Participants reported about their age, race/ethnicity, grade in school/highest completed education, mother's and father's education, mother's and father's occupational status (i.e., working class, professional class, or unemployed), family structure (single parent/guardian with no cohabiting partner, versus two parents/guardians, or one parent/guardian and a cohabiting partner) and current living situation.
<i>Partner Characteristics</i>	Participants were asked to provide the first name of all current dating or dating partners. Partner-specific questions included; partner's gender, race/ethnicity, educational level and age of partner, duration of each relationship, and whether participants have engaged in sexual intercourse with that partner. Participants also were asked for each partner: "How many times have you seen [partner] drunk in the past six months? (Drunk means slurred speech, unsteady on your feet, or blurred vision.)" and "In the past six months, has [partner] used any drug on this list [<i>a comprehensive list was provided in the responses</i>] on his own, without a doctor telling him to take it, to get high or to enjoy the feeling?"
<i>Family Conflict</i>	The following three validated questions assessed family conflict and IPV in participants' families of origin, with responses on a four point Likert scale from strongly disagree to strongly

	agree: “We fight a lot in our family,” “Family members sometimes get so angry they throw things,” and “Family members sometimes hit each other.”
<i>Mental Health</i>	Mental health was assessed using the 18-item Brief Symptom Index, which measures depression, anxiety and somatization. Responses are on a 5-point scale. Psychometric properties in adolescent samples are acceptable.
<i>Delinquency</i>	To assess self-reported delinquency, we used six questions from the National Longitudinal Study of Youth that ask about the following behaviors: running away from home, carrying a weapon, purposely destroying property, stealing, attacking someone to hurt or fight, and getting arrested.
<i>Acceptance of TDV</i>	Acceptance of TDV was assessed using the 11-item Acceptance of Couple Violence (ACV) scale. The ACV, which queries about acceptance of female-to-male and male-to-female violence, has been tested on adolescents, and has acceptable reliability and validity. Respondents answer questions such as “A girl who makes her boyfriend jealous deserves to be hit” using a 4-point Likert scale.
<i>TDV</i>	Past experience with TDV was measured using the Safe Dates scales for physical and emotional victimization and perpetration. The measure has been tested on adolescents, and has adequate psychometric properties.
<i>Drug and alcohol behaviors</i>	Participants reported on their own alcohol and illicit drug use. Alcohol use was assessed using the AUDIT, a measure of problem alcohol use that has demonstrated acceptable reliability and validity in adolescent samples. Drug use was measured by asking “Have you ever used any drug on this list [<i>a comprehensive list was provided in the responses</i>] on your own, without a doctor telling you to take it, to get high or to enjoy the feeling?” For each drug that the adolescent has used, she was asked whether she has used it more than five times in her life, has ever used it every day for two weeks or more in the past 6 months, last time the drug was used, and how often the drug was used in the past 6 months. Participants also were asked if they have ever tried to cut down on the drugs but not been able to, whether they need larger amounts to get the same effect, whether they have had to seek medical care related to drug use, and if the use has interfered with their everyday activities.

Daily Diary Questions: All participants were assigned a PIN to use when logging into their daily diaries. At enrollment, study staff provided training about how to respond to daily questions from their Smartphones via a link to a cloud-based questionnaire. At the beginning of the study, we asked participants to complete 6 months of data. Several months into the study, however, we realized that 1) we were receiving sufficient data (in the form of “events” of TDV) within the first 120 days; and 2) rates of diary completion went down steadily after 120 days. Therefore, in early 2015, we changed study processes to ask participants to complete 4 months of daily diary entries. Specifically, each day at 9 pm participants received a text with a non-descript web link (www.hart.com). When they connected to the link, they were asked to put in their PIN. One question was shown at a time, with the screen timing out after 30 seconds if there was no

response. No data were ever stored on the actual phone but instead were transmitted directly to an encrypted, password protected, secure database and stored in a de-identified, secure database. At the completion of the daily survey each day a message appeared with the number for the national TDV hotline, as well as a statement encouraging participants to talk to a safe adult and reminding participants their diary entries were not read in real time.

For the daily diaries, participants were asked if they were with the same partner as baseline (Table 2), and to enter his initials. If there was a new partner, they were asked to enter this new partner's initials. They were then asked a series of questions about how close and committed they felt, how much they trusted their partner, if they had received or given money or gifts, if they or their partners felt jealous, if they had experienced or perpetrated physical or emotional TDV, and if they or their partners consumed alcohol or drugs.

Table 2. Daily Diary Questions

How close do you feel toward [him] today? Very close, somewhat close, not close at all
How much do you trust [him] today? Trust him a lot, trust him somewhat, do not trust him at all
How committed do you feel to [him] today?
Very committed to him, somewhat committed to him, not committed to him at all
Did [he] give you any money or gifts today? Y/N
Did you give [him] any money or gifts today? Y/N
Did you feel jealous of other girls [he] might be talking to/hanging out with today? Y/N
Did [he] feel jealous of any other boys you might be talking to/hanging out with today? Y/N
Did [he] call you fat, ugly, stupid or some other insult today?
Did [he] threaten to hit, punch, kick or hurt you today?
Did [he] push, shove, grab, slap, hit, kick or otherwise physically hurt you today?
Did you call [him] fat, ugly, stupid or some other insult today?
Did you threaten to hit, punch, kick or hurt [him] today?
Did you push, shove, grab, slap, hit or kick [him] or otherwise physically hurt you today
Did you have a drink containing alcohol today?
Did you see your partner have a drink containing alcohol today?
Did you use street drugs or prescription pills that were not prescribed to you today?
Did you see your partner use any of these street drugs or prescription pills today?

DATA ANALYSIS

Data Cleaning. Three main issues arose in the data cleaning process: PIN accuracy, missing data, and duplicate entries. The daily data were collected using a unique PIN to ensure

participant privacy. Each participant was texted a link to fill out the daily survey, where she would enter her PIN, which was required to access the survey. Participants occasionally entered in their PINs incorrectly, however, the incorrect PIN would sometimes allow access to the survey if it coincidentally was another participant's PIN. When this occurred the study team had to identify which participant was using which incorrect PIN during that time period. This was done by monitoring the daily data on a weekly basis. The project director would assess the number of completed diary entries per week per participant. If a participant missed more than 3 sequential days without submitting a daily diary entry then the participant was contacted by telephone. Occasionally, a participant would report that she had completed diary entries. This would prompt an inspection of the PIN entries for that week, and sometimes discovering a misused PIN. Misused PINs were also discovered during routine inspection when a PIN was used for a participant who had finished data completion for the study.

Because the goal of the study was to understand patterns of teen dating violence within a relationship over time, it was necessary to precisely track partners over the course of follow-up. Partner initials were paired with the participant's PIN. The project director and data analyst would actively monitor partner initials and assign each partner a unique partner ID (PID). Sometimes participants would enter TJ, for example, to indicate their partner, but on subsequent days it would be T.J., t.j., or tj. This required hands on PID assignment by the project director and data analyst. While participants were recruited based on TDV experience in a current relationship, over the 4 months of follow-up, it was possible that the participant ended the relationship and remained without a new partner or ended the relationship and started a relationship with a new partner. The baseline partner would be PID =1, but then the subsequent

partners, if applicable, would be assigned PID = 2, 3, etc. If the initial partner was named following a gap in time, that partner data continued to be assigned to PID = 1.

There was also a high amount of missing data. Missing data could result from 1) non-response (i.e. not completing a diary entry at all on a given day or not answering an individual question within the daily diary survey) as well as 2) participants not having a partner for a period of time. For the latter, the participant would have completed a diary entry by entering her PIN and then answering no to both seeing the enrolled partner and to having a new partner, but with all remaining fields remaining blank.

While each participant was only supposed to complete one survey each day, there were instances when participants completed multiple surveys on one day. This could be a result of daily entries straddling a calendar day (1 am was a diary report on the previous calendar day) or completing multiple entries. Multiple entries could result when, for example, participants began filling out a survey but don't complete it and then open another survey shortly after, which resulted in two separate entries. The project director and data analyst had to manually inspect all duplicate entries and delete so that the dataset contained only a single entry per day. The entry with more complete data was kept. Finally, if two surveys both had complete data but did not appear to be intended for two separate days, the first entry was retained.

Descriptive Analyses. Demographic analyses were conducted using SPSS 21; longitudinal analyses were conducted using SAS 9.3. We first generated descriptive statistics of participants' demographic variables and relationship history (Table 3). We then assessed the viability of each participant's time series data for longitudinal analysis based on the number of missing observations. As noted previously, there were two key reasons for missingness including: 1) the participant did not respond on a particular day; or 2) the participant reported not having a partner

on that day, and so did not proceed to answer the remainder of the daily diary questions. Only those with 30 or more observations were included in the longitudinal analyses. We are close to completion of analyses of our principle manuscript, designed to estimate the associations between relationship characteristics and instances of TDV within couples over time. We conducted the analyses three times to evaluate sequential orders: contemporaneous associations (all variables reported on the same day), relationship characteristics predicting next day TDV, and TDV predicted next day relationship characteristics.

Longitudinal Modeling. For longitudinal analyses, a summative score was computed for each partner's TDV behaviors. This summative score consisted of the sum of calling names (0 / 1), threatening to hurt (0 / 1), and perpetuating physical violence (0 / 1) for a possible range of 0 to 3. (To illustrate, the variable named HisTDV = hefat hethreat + hepush.) Additionally, three variables (closeness, trust, commitment) were coded on a 0, 1, or 2 scale such that the greatest level of each variable = 2 and the lowest level of each variable = 0. We used mixed model trajectory analysis (MMTA) to test within-couple associations between TDV occurrences and relationship characteristics over time. MMTA is a form of hierarchical linear modeling with use with small samples. First, the time-related pattern of the "outcome" was determined (including testing for linear, quadratic or cubic trajectory). Next, autocorrelation was accounted for using the error covariance structure that best fit the observed data among several structures including autoregression, compound symmetry, Toeplitz, unstructured, and variance components. Then, model "predictor" terms were analyzed as fixed effects (to obtain sample averages) and then tested as random effects (to test for significant variation between participants in their association with the model outcome). Traditional fit statistics of Akaike's Information Criterion, Bayesian Information Criterion, and the likelihood ratio 2 test ($p < .05$) were used to select among

competing models. MMTA analyses included only those participants with 30 or more days of data (based on the minimum recommended observations for time series analysis). To minimize the effect of differential weighting on results that could occur from some participants providing more data, only data from each participants' first four months were analyzed. The subsample of participants meeting these criteria were virtually identical to those in the full sample on a range of demographics and TDV related characteristics (Table 3).

FINDINGS

We have numerous manuscripts planned, with the first to be submitted on December 1, 2017. The first manuscript will focus on the relationship between relational factors and incidents of TDV; the second on substance use and incidents of TDV; and the last on patterns of TDV within adolescent relationships. Our sample of 158 adolescent females (mean age = 18.1 years) was 92% African American and 74% were attending school (Table 3). On average, participants had 3.6 lifetime dating partners and a majority had used an illegal substance.

Table 3. Demographics at Baseline in the Full Sample and Subsamples

	Full Sample	Subsample with 50+ observations	Subsample with 30+ observations
Age in years (\bar{X})	18.1 (SD = 1.1)	18.3 (SD = 1.1)	18.2 (SD = 1.1)
Race (African-American)	92.1%	94.8%	96.3%
Attending school	74.3%	63.8%	67.7%
Mother has HS / GED or more education	65.1%	74.1%	74.1%
Father has HS / GED or more education	77.3%	74.1%	72.2%
Has changed residence in last year	62.5%	55.2%	58.0%
Lifetime dating partners (\bar{X})	3.6 (SD = 5.1)	3.8 (SD = 6.9)	3.8 (SD = 6.0)
Acceptance of Couple Violence score (\bar{X})	20.5 (SD = 7.3)	21.0 (SD = 7.3)	20.1 (SD = 7.3)
Family Conflict			
Hit each other	53.3%	44.8%	46.9%
Fight a lot	43.4%	36.2%	43.2%
Throw things in anger	43.4%	41.4%	43.2%
Used an illegal drug	61.4%	55.4%	57.7%
AUDIT score (\bar{X})	2.2 (SD = 4.0)	2.4 (SD = 4.1)	2.2 (SD = 3.7)

Note: HS = high school graduate.

At baseline, participants reported high rates of all forms of TDV in the past month. Nearly 90% of the sample was called fat, ugly or stupid by their current partner, over 70% were threatened to hit/punch/kick and pushed/shoved/grabbed/slapped, and ~50% were punched/choked/bit/kicked and were made to feel afraid. Rates of victimization were higher than rates of perpetration for every form of TDV, but were especially higher for being made to feel afraid by a partner.

Based on preliminary analyses, we have several key findings. For TDV incidents perpetrated by the male partner (referred to as “males’ TDV”), the largest associations with relationship characteristics occurred on the same day as the violence. The previous day’s level of closeness, commitment, trust, jealousy or instrumental support were less associated with a male perpetrated TDV event than reports of these feelings on the same day as the TDV event. On the day of and the day following a male perpetrated TDV incident, jealousy increased and positive relational qualities decreased. Similar patterns emerged for female perpetrated TDV incidents, with the exception that participants reported trusting their partners *more* on the day following.

IMPLICATIONS FOR CRIMINAL JUSTICE POLICY AND PRACTICE IN THE U.S.

The questions pursued in the current application are essential to advancement in the field of TDV, where intervention development has been stymied by lack of understanding of relational and situational factors that are related to TDV episodes. The information we are currently providing to parents, teachers and other adults who want to assist adolescents who are experiencing abuse is guess-work at best. Nobody has studied day-by-day what adolescents who are experiencing abuse are really thinking or feeling. We need evidence if we want to have any chance of making a significant and sustained impact. Our innovative data collection method of

daily diaries has allowed us to overcome limitations of previous research. Our findings will be able to be directly translated to targeted intervention development.

We are working to disseminate our findings widely. In addition to the planned publications, we have presented our study in the following venues: (1) Society for Research on Adolescence; (2) Society of Adolescent Medicine; (3) American Society of Criminology; (4) two national NIJ-sponsored webinars this year (in February and March); and (5) Society for Research on Child Development meeting.

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