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## Final Summary Overview

### Longitudinal Follow-up in the National Survey of Teen Relationships and Intimate Violence (STRiV)\*

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Researchers, practitioners and policymakers are increasingly paying closer attention to the problem of teens experiencing relationships violence also known as adolescent relationship abuse (ARA<sup>a</sup>). To provide more data on the extent and nature of ARA, adolescent and parent attitudes regarding gender roles and relationship behavior, and the family and peer context in which ARA may occur, we developed the National Survey on Teen Relationships and Intimate Violence (STRiV). STRiV was the first comprehensive national household survey dedicated specifically to the topic of ARA, using detailed measures of ARA and covering perpetration as well as victimization. With funding from the National Institute of Justice (Grant # 2011-WG-BX-0020; *STRiV-A*), the research arm of the U.S. Department of Justice, the study began enrolling its first STRiV participants in October 2013. By the conclusion of the first wave of data collection, we collected completed surveys from a weighted sample of 2,354 youth 10-18 years old and a brief survey of a parent or caregiver (PCG) of the STRiV youth. In October 2014, the baseline respondents were invited to participate in a second survey, resulting in a weighted sample of 1,471 wave 2 completes (62.5% of the 2,354 original PCG-child dyads).

This report covers the third and fourth waves of data collection with the original STRiV cohort. These two waves (*STRiV-B*) were designed to provide information to increase the field's understanding of the changing nature of adolescent and young adult dating relationships, particularly those marked by abuse, to inform the development of more effective prevention efforts. STRiV-B was designed to capture developments in adolescent relationship abuse (ARA) from earlier periods of adolescence to young adulthood and to identify ARA risk factors informing intervention efforts sensitive to gender, developmental, and contextual characteristics. The specific aims of this follow-up study were to **(1a)** Document temporal shifts in various forms of ARA from 2013 to 2016 through an updated national portrait; and **(1b)** Investigate the longitudinal development of ARA victimization and perpetration, assessing escalation/desistance at the individual level and capturing patterns of ARA behavior among youth (ages 10-18 at wave 1; 13-21 at wave 4). Aim 1 addressed the gap in the field in that no national data sets were available to inform whether ARA patterns were relatively stable across time or whether specific forms were increasing/decreasing in

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<sup>a</sup> We define ARA to be inclusive of physical, emotional, verbal, psychological, or sexual abuse perpetrated by an adolescent against another adolescent with whom they are in a dating/romantic relationship (see Offenauer & Buchalte, 2011). Other terms used in the field and in our own research (in response to reviewer requests) are teen dating violence (TDV), adolescent dating abuse (ADA), and adolescent intimate partner violence (IPV).

prevalence. Further research aims were to (2) Examine the context of ARA experiences (e.g., in terms of relationship characteristics, attitudes, and family and peer network dynamics, as well as polyviolence experiences); and to (3) Explore models of ARA that draw on key concepts derived from social learning theory, feminist theory, and social network theory.

## PROJECT DESIGN AND METHODS

All waves of STRiV surveys were completed using a high-security web-based survey. The online format was appropriate for the target age group, who are generally well versed in computer use. The sensitive nature of the survey content also requires the utmost privacy and confidentiality. The secure web-based survey—through which questions are asked on a screen (similar to the audio-computer-assisted self-interviews of other adolescent surveys) rather than by a person—maximizes privacy. An online format avoided the introduction of bias due to interviewer gender and maximized flexible scheduling for survey completion.

### Data source

Respondents to the STRiV study were recruited from the GfK/Knowledge Panel, a national household address-based probability sample (50,000+ members ages 18 and older) covering approximately 97% of U.S. households.<sup>1,2</sup> Further information about the KnowledgePanel recruitment and GfK methods are provided in the Final Report describing STRiV waves 1 and 2.<sup>3</sup>

To assure national representativeness, we applied the KnowledgePanel statistical weights<sup>4</sup> (provided in the archived dataset). The panel base weight takes into account a range of sampling and non-sampling error (e.g., non-response to panel recruitment and panel attrition), and was employed in a probability proportional to size (PPS) selection method for drawing sub-samples from KnowledgePanel. Using U.S. Census demographic and geographic distributions, GfK conducted a sample-specific post-stratification process (applying an iterative raking procedure) to adjust for survey nonresponse and elements related to the study-specific sample design (oversampling households with youth), resulting in a weighted sample distribution at baseline (wave 1) that approximates the 2010 U.S. Census estimates, and adjusts for nonresponse at each subsequent wave.

Following IRB protocols, recruited respondents were informed in advance and within the online survey that they could refuse to answer any questions or not participate at all. If the recipient PCG consented to participate, an

algorithm randomly chose an eligible child to participate in the study from the household (or if there was only one eligible child, that child was selected). Next, the participating PCG-child dyad received an invitation by e-mail to complete the surveys (offered in both English and Spanish), which were presented sequentially with child assent required prior to child participation. We used an at-risk protocol to aid any respondents who requested a referral for help (toll-free telephone and online help was available).

### **Baseline surveys and subjects**

The project started with the recruiting of a nationally representative sample of 5,105 households with at least one resident youth (age range 10 to 18) to complete a PCG baseline survey and a separate child (ages 10 to 18) survey online from October 2013 to January 2014. Screening of these recruited households indicated that in some cases, the expected youth age 10-18 did not reside in the home and thus the household was ineligible for the study (ineligible rate of about 7%). For the baseline youth survey, the PCG consent rate (for self and child participation) was 82.6%, and the child assent rate was 98.3%. Communications at each wave with the PCG stressed the importance of allowing the selected child to complete the survey privately. The weighted wave 1 PCG sample was  $n=2,645$  (response rate 56%), and the weighted wave 1 youth samples was  $n=2,354$ . Thus, the final baseline dyadic sample (both PCG and youth responded to survey) response rate was 50%, exceeding the typical industry response rates reported by Kohut and colleagues.<sup>5</sup>

### **Wave 3 and 4 surveys and subjects**

At each data collection wave, GfK reviewed the STRiV cohort status to prepare invitations for those who remained active Knowledge Panelists and those who had withdrawn from the KnowledgePanel (i.e., accepting no new studies) but remained active in the STRiV study; a small group of respondents who had withdrawn permanently from the KnowledgePanel and all ongoing studies were lost to follow-up. Households were offered a \$20 incentive for completing the baseline surveys through the GfK points system.

The wave 3 data collection (October 2015 – May 2016) followed invitations to  $n=2,202$  STRiV households (the participating PCG and youth were identified in the invitations). The completed wave 3 data collection resulted in a weighted  $n=1,602$  PCG surveys (135 completed in Spanish) and a weighted  $n=1,553$  youth surveys (56 completed in Spanish), with the priority in data collection being on completed youth surveys in line with the project objectives.

The wave 3 response rate of youth baseline respondents was 70.5%. The wave 4 data collection (October 2016 – July 2017) followed invitations to n=2,156 STRiV households. The completed wave 4 data collection resulted in a weighted n= 1,536 PCG surveys (125 completed in Spanish) and a weighted n= 1,499 youth surveys (55 completed in Spanish). The wave 4 response rate of youth baseline respondents was 69.5%.

Most of the STRiV youth cohort participating at wave 3 was White (60%) or Hispanic (22%) and 51.5% were male. The average age of wave 3 participants was 15.9 years old. The wave 4 distribution by race/ethnicity was similar to wave 3. The average age at wave 4 was 16.6, and the sample was 50.6% male. In both waves 3 and 4, the median household income was \$55,000. See Appendix Table 1 for other background household characteristics.

## Measures

Reflecting the theoretical model of Bell and Naugle,<sup>6</sup> STRiV measures may be categorized as *proximal antecedents* (mental health, delinquency, drug/alcohol use); *distal antecedents* (parental relationship quality, critical parenting, parental anger trait, parent's report on the youth's temperament, dating relationship quality for youth daters, peer network characteristics, adolescent financial literacy, youth's exposure to violence, parent-youth relationship quality, and youth dating history); *immediate context* (items on alcohol/drug use at time of the incident and the events occurring prior to victimization incident such as hitting partner, yelling, etc.); *verbal rules* (parental attitudes about domestic violence, parent dating rules, youth conditional attitudes about violence, and youth's gender stereotypes/ mistrust, and gender roles); *ARA (CADRI) and sexual harassment (AAUW measure) experiences, consequences* (relationship outcomes and disclosure); and *sociodemographic characteristics*.

Our key outcome measure in the STRiV study was ARA. We used a modified version of the Conflict in Adolescent Dating Relationships Inventory (CADRI) to capture the *prevalence, type, frequency, and severity* of ARA victimization and perpetration in the subpopulation of daters. This 62-item self-report scale measures overt and covert forms of violence both as a victim and a perpetrator, intimidation, and positive communication both expressed and experienced in dating relationships.<sup>7</sup> The instrument includes measures from Taylor et al.,<sup>8</sup> Baum et al.,<sup>9</sup> and NCVS's Supplemental Victimization Survey (SVS) to assess harassment and stalking behaviors (some falling under the category of psychological abuse).

Additional measures include: conditional attitudes regarding when it is acceptable for violence to be perpetrated by males and/or females<sup>10,11</sup>; decision-making, influence, and the balance of power in relationships<sup>12</sup>; positive and negative aspects of relationship quality (e.g. attachment, feelings of jealous)<sup>13</sup>; and romantic partner characteristics (e.g. gender, age, school attendance/level). The STRiV instrument also assesses the respondent's reaction (emotional state; physical impulses; disclosures) after a physical altercation<sup>14</sup>; and whether a dating relationship was terminated due to a specific abusive event. Measures of relevant cognitive, affective, and behavioral areas correlated with ARA,<sup>15</sup> as well as personal familial, peer, and environmental characteristics associated with dating behavior, relationship quality, and ARA outcomes are measured.<sup>13,15-18</sup> At wave 3, we added measures of additional forms of polyviolence<sup>19</sup> (exposure to family violence, peer/sibling violence) and reflective measures of perpetration to reflect the strong relationship between ARA and polyabuse. With growing independence and shifting relationships as some cohort members entered young adulthood, a new scale measurement of parental monitoring from the youth perspective was added to STRiV at wave 3.<sup>20,21</sup> Given the role of alcohol in young adult relationship abuse,<sup>22,23</sup> we also included indicators of personal substance use predictive of longitudinal trajectories of dating violence.<sup>24</sup>

Items collected via the wave 1 PCG survey included family structure, parental education, residence with parents, and rural/urban residency<sup>16</sup> as well as youth psychological well-being via the MHI-5 scale<sup>25</sup> and dispositional traits (aggression)<sup>26</sup> as correlates of dating behavior as well as of ARA experiences.<sup>27-30</sup> The wave 3 parent survey assessed parent relationship quality,<sup>31,32</sup> parent intimate partner violence (IPV), disclosure of specific youth ARA and violence experiences to parent and parent's subsequent reporting of youth's disclosure to another adult, partner's parents, school officials, police, clergy). At wave 4, the PCG survey also included parental monitoring.<sup>32,33</sup> Further, selected wave 1 measures (parent child relationship, parental attitudes) were measured again in wave 4.<sup>34,35</sup>

## DATA ANALYSIS

The STRiV data were cleaned and recoded using SPSS 23.0 statistical software. The data underwent standard cleaning and we used SPSS (checking skip patterns, using scatterplots, and histograms) to remove errors/ inconsistencies in the data and verified that the data values were correct and conformed to a set of rules. The statistical software packages used in our analyses (SPSS 23.0, Mplus 6.0, 7.0, and Stata 14, 15) allow for the use of

sampling weights, adjust for complex sampling, and handle missing data. Stata and Mplus can also address highly imbalanced dichotomous outcomes (e.g., % of youth/young adults reporting any ARA), as well as manifest indicators of varying levels of measurement (i.e., nominal to continuous data). Panel demographic post-stratification weights were applied to adjust both for non-coverage of the U.S. population as well as participant non-response.

For each wave of data, and for each analytic sample, we examined the distribution of our data with and without statistical weights and ran frequencies, measures of central tendency, and measures of dispersion with all the study variables. Bivariate associations and multi-collinearity were investigated with cross-tabulations, comparison of means, and correlation matrices. Multivariate analytic models were selected to address each research question as appropriate. Appropriate methods for continuous and dichotomous outcomes were applied in both cross-sectional and longitudinal models.<sup>36-38</sup> Applying person-centered methods, cross-sectional latent class models were estimated to understand the profiles of parent IPV victimization<sup>39</sup> as well as to investigate the co-occurrence of ARA and sexual harassment.<sup>40</sup> General growth mixture models were applied to classify longitudinal patterns of dating with and without ARA perpetration<sup>41</sup> as well as the longitudinal patterns of dating relationship dynamics.<sup>42</sup> To investigate mediation using multiple waves of data, we estimated structural equation models.<sup>43</sup>

## FINDINGS

Prior STRiV research (STRiV-A<sup>3</sup>) has been reported in three peer-reviewed papers.<sup>44-46</sup> During the current funding period, STRiV results were presented at the 2017 national conference of the *American Society of Criminology*, and the 2015, 2016 and the 2017 conferences of the *Society for Prevention Research*. In addition to the two additional waves of longitudinal data, the STRiV research conducted during this funding period includes nine manuscripts, four which are published or accepted for publication,<sup>36,37,39,43</sup> four of which are under peer review,<sup>38,40,41,47</sup> and one which is being prepared for submission.<sup>42</sup> Three additional studies are planned regarding (1) the longitudinal relationship between conditional tolerance profiles and future ARA outcomes; (2) longitudinal trajectories of sexual harassment; and (3) the emotional and behavioral consequences of sexual harassment and bullying. In this summary report, we highlight our key findings to date.

Mumford et al.<sup>36</sup> explored the effects of Wave 1 rates of youth tolerance for ARA and friendship group structural and behavioral factors on Wave 2 ARA perpetration (published since the STRiV-A final report). Conditional tolerance

of hitting boyfriends was found to be positively related to ARA perpetration in the absence of friendship characteristics.<sup>36</sup> Daters who reported a recent discussion of a problem with friends and girls who named all-girl friend network groups were more likely to report perpetrating ARA.<sup>36</sup>

Taylor et al.<sup>37</sup> examined the longitudinal association between the dynamics of adolescent dating relationships at baseline and adolescent relationship abuse (ARA) a year later. Higher levels of the respondents' own controlling behavior (towards their partners) was associated with higher rates of sexual and/or physical ARA victimization and higher rates for similar acts of perpetration. More controlling behavior by the partner (toward the respondent) was also associated with higher rates of psychological ARA victimization (and higher rates for psychological ARA perpetration). Respondents reporting higher feelings of passionate love were also at higher risk of experiencing sexual and/or physical ARA victimization. This study also documented that female respondents were twice as likely as male respondents to be perpetrators of physical and/or sexual ARA.<sup>37</sup>

Liu et al.<sup>39</sup> drew on the availability of parent-reported data as well as adolescent responses in the STRiV study, investigating through latent class analyses the association between adolescents' exposure to inter-parental IPV (verbal abuse and physical violence) and adolescents' own reports of ARA in their dating relationships. Children (ages 12-21) of parents who experienced verbal abuse in the past year were more likely to experience similar patterns in their own relationships, whereas children of parents who reported past-year physical and verbal abuse were more likely to report psychological, physical and sexual abusive encounters in their dating relationships.<sup>39</sup>

Using three waves of STRiV data, Mumford et al.<sup>43</sup> conducted path analyses stratified by gender to examine the associations between youths' mental health, the intimacy (self-disclosure, passionate love) and problem dynamics (awkward communications, controlling behaviors) of their dating relationships, and intervening experiences of dating violence victimization. Male daters reporting better mental health at baseline were less likely to report problem dynamics at follow-up, and aspects of problem dynamics at baseline predicted worse follow-up mental health for male daters. We found no longitudinal associations between mental health and intimacy or problem relationship dynamics for female daters. While male daters' victimization did not mediate longitudinal measures of mental health or of relationship dynamics, victimization did mediate aspects of female daters' reported relationship dynamics.<sup>43</sup>

Liu et al.<sup>40</sup> explored the relationship between sexual harassment (SH) and ARA, identifying co-occurrence patterns of different types of ARA victimization and perpetration as well as SH victimization and perpetration using latent class analysis. The sample was limited to respondents in a current or past-year dating relationship (n=667) and found that a three-class model best represented the overlap of SH and ARA data ("Low Abuse," "High Abuse," and "Psychological Only").<sup>48</sup> Results also indicate that SH tends to co-occur particularly with psychological ARA victimization and perpetration; i.e., when SH is high, we found psychological ARA victimization and perpetration to be high.<sup>40</sup>

Building on our baseline findings of national rates of ARA victimization and perpetration,<sup>49</sup> we have prepared a study of ARA trajectories across the four waves of the STRiV study.<sup>41</sup> Self-reported ARA perpetration increased from 23.4% (wave 1) to 26.9% (wave 4), exceeding the increase in rates of dating. Latent class analyses resulted in three classes representing "Non-Daters" (37.3%), respondents showing "Increasing Dating/IPV" (44.6%), and respondents with "High/Stable Dating/IPV" (18.1%) patterns. Results support prior research finding heightened patterns of IPV perpetration by older youth, and distinguish individual and family characteristics associated with adolescent/young adults' IPV perpetration for the purpose of informing individual and programmatic prevention efforts.<sup>41</sup>

Pursuing risk factors for ARA and earlier evidence that money lending between dating adolescents was correlated with reported controlling behaviors and ARA,<sup>46</sup> Copp et al. further investigated money lending practices, feelings of financial resentment, and exposure to economic control contribute to couple-level interactions.<sup>38</sup> This study found evidence of an association between adolescent financial behaviors and concurrent conflict due to economic considerations, which itself was an important predictor of future ARA perpetration.

The final manuscript already prepared for submission during this funded period is an investigation of longitudinal profiles of dating relationship dynamics (RDs) across the four waves.<sup>42</sup> Our analyses indicate fewer than one in five adolescents falls in a "Healthy RDs" profile (17.9%), although another 22.1% were classified as having "Disengaged RDs." More than half of the sample reported problematic relationship dynamics, resulting in profiles of "Intense RDs" (25.9%, high on passionate love, physical intimacy, self-disclosure, controlling behaviors) and "Unhealthy RDs" (34.1%, characterized by high controlling and low connection). The probability of any ARA victimization or perpetration was estimated to be greater for youth in the Unhealthy RD class. Youth in both the Healthy and

Disengaged RD classes showed no difference on ARA outcomes. However, youth in the Intense RD class exhibited the strongest likelihood of ARA involvement.<sup>42</sup>

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

NIJ funding for the STRiV longitudinal research program has yielded four annual waves of national data on youth/young adults and an adult parent/caregiver from their household. These data include measures of sexual harassment as well as of abuse in dating relationships, with a key contribution to the field being the collection of nationally representative perpetration as well as victimization data. Understanding self-reported perpetration of aggressive behaviors is key to studying the modifiable levers for preventing these behaviors, and STRiV data support studies of parenting data, peer contexts, attitudes, prior exposure to violence, youth temperament, individual risk behaviors such as substance use, and youth mental health. Importantly, STRiV also collects descriptive information about the dynamics within a specified dating relationship, seeking to understanding the nature of dating relationships that are characterized by victimization, perpetration, or the all too common reality of two-way aggression (the so called 'victim-offender' overlap<sup>50</sup>).

Results of STRiV analytic research to date discerned an increase in the perpetration of ARA over the four-year study period that exceeded the increase in dating that normatively follows adolescent development.<sup>41,49</sup> STRiV research has shown that the attitudes and behavior of parents/caregivers of youth has a visible association with subsequent youth reports of psychological, physical and sexual abusive encounters in their dating relationships.<sup>39,51</sup> Our research further highlights the importance of discerning when adolescent relationships characterized by self-reported passionate love may in fact be masking an intensity and problem dynamics (often correlated with controlling behaviors) for which young people may need some supportive guidance to keep relationships healthy.<sup>37,42</sup> However, further research is needed to understand the impact of ARA experiences on relationship dynamics, both in ongoing relationships and across sequential relationships, in that experiences of victimization reported by the STRiV youth respondents did not have the anticipated disruptive effect on subsequent relationship dynamics and mental health outcomes.<sup>43</sup> Attending to the importance of financial conflict and IPV in adult relationships, STRiV researchers have also found evidence that adolescent financial behaviors in their dating relationship is associated with relationship conflicts and ARA perpetration and victimization.<sup>38,52</sup> Outside of the specified dating relationship, for broader

prevention efforts it is important for adults to note other youth behaviors, as highlighted by the results that sexual harassment tends to co-occur particularly with psychological ARA victimization and perpetration.<sup>48</sup> STRiV data points to the need to study ARA within the broader context of related adolescent problem behavior such as sexual harassment. Moreover, while there is growing cultural awareness that abusive behaviors are always unacceptable, ongoing conditional tolerance of hitting boyfriends and the characteristics of youths' group of friends remain precursors to reporting perpetration of physical and/or sexual ARA a year later.<sup>53</sup> The publicly available STRiV data potentiate further studies of youth and young adult.

The STRiV findings need to be considered within context of our recognized study limitations.<sup>44</sup> First, the STRiV data are subject to the usual limitations of self-report surveys (e.g., telescoping of problems into the study timeframe). Next, our measurement of sexual abuse was limited to four CADRI items due to our wide age range and more than four items in this area might have been viewed as inappropriate by the parents of our youth respondents.<sup>44</sup> Also, like others researchers in this area, we measured ARA by asking about specific acts, but did not capture intensity of or motivations for specific incidents.<sup>44</sup> We also did not make a distinction between ARA acts of offense or defense. Although there have been calls for more ARA contextual research, in a short national survey it is not feasible to gather such detailed data.<sup>44</sup> However, we used standard instrumentation to generate this national estimate and limited measurement to incidents that occurred within a current or past-year dating relationship.<sup>44</sup> Thus, STRiV estimates are more conservative than other full lifetime measures of ARA based on the CADRI.<sup>44</sup>

In conclusion, the STRiV results to date and the availability of the STRiV data for further secondary data analyses are an important contribution to the efforts of parents, school administrators, clinicians and prevention scientists seeking to design approaches tailored for individuals or groups to reduce the incidence of sexual harassment and adolescent dating relationship abuse. STRiV has expanded the national conversation beyond "What can be done to avoid being a victim?" to "What can we work on to prevent youth from developing aggressive behaviors?" Waves 1 and 2 of the STRiV project data are currently available to the public for further research.<sup>54</sup> Waves 3 and 4 will be publically available through the ICPSR archive in 2019 for others researchers to continue to investigate patterns and implications to strengthen violence prevention strategies. NIJ has provided funding (2017-MU-CX-0031) to collect Waves 5 and 6, with a focus on dating relationship dynamics.

Appendix Table 1. STRiV youth sample description, STRiV 2015-2016, weighted\*

	Wave 3		Wave 4	
	n	% / mean (S.D.)	n	% / mean (S.D.)
Age of youth	1553	15.9 (2.78)	1499	16.6 (2.99)
Gender of youth				
Female	753	48.5%	741	49.4%
Male	800	51.5%	758	50.6%
Race/ethnicity of Parents				
White	959	59.8%	917	55.7%
Black	160	10.0%	196	11.9%
Hispanic	358	22.4%	412	25.0%
Other	125	7.8%	121	7.4%
Household characteristics				
Median household income		\$55,000		\$55,000
Household size (mean & median)		4.03 & 4.0		4.02 & 4.0
Household income \$100,000+	470	29.3%	587	35.6%
Parents Education				
Never graduated high school	208	13.0%	231	14.0%
High school	427	26.6%	462	28.1%
Some college	463	28.9%	463	28.1%
4-year college degree or >	504	31.4%	490	29.7%
Location of residence				
South	586	36.6%	609	37.0%
West	382	23.9%	420	25.5%
Midwest	350	21.8%	350	21.3%
Northeast	285	17.8%	267	16.2%
Urban	1360	84.9%	1415	86.0%
Non-urban	242	15.1%	231	14.0%

\*Out of a weighted baseline (wave 1) sample of n=2,354 youth respondents

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