SUPPORTING STATEMENT: *PART A*

Formative Study to Understand Relationship Dynamics and Conflict

OMB# 0920-XXXX

November 8, 2017

Point of Contact:
Dennis Reidy, Ph.D.
Contact Information:
Centers for Disease Control and Prevention
National Center for Injury Prevention and Control
4770 Buford Highway NE MS F-64
Atlanta, GA 30341-3724
Phone: 770-488-0525
Email: dreidy@cdc.gov

CONTENTS

SUMMARY TABLE

- Goal of the study: This is an exploratory study to gather data from a diverse and targeted convenience sample to better understand factors or groups of factors that may influence violence perpetration that occurs within adult intimate partner relationships. The study is the first component of a larger research agenda that will and is intended to inform the next phase identifying latent classes of intimate partner violence (IPV) perpetrators. For this exploratory study, the focus is gathering extensive data from the diverse convenience sample across multiple domains (e.g., attitudes, perceptions, personal experiences, victimization, etc.) identified by IPV experts and the peer reviewed literature as correlating to IPV perpetration. The information collected in this study is *not* intended to be generalizable to the population. Rather, these data are intended to inform future research with additional populations and more rigorous sampling strategies.

- Intended use of the resulting data: Data collected will be used to generate preliminary ideas to guide future research around which social, psychological and contextual conditions best correlate to the different types of violent intimate relationships. It is hoped that this research will inform the identification of subgroups of perpetrators that future programmatic research will seek to replicate, expand, and refine using alternative sample populations and more rigorous sampling procedures. After this several additional phases of research will be necessary; however, this exploratory study is the first step in the long developmental research agenda.

- Methods to be used to collect: Data will be collected through an online screener of up to 8,600 respondents and survey of 2,000 Mechanical Turk (MT) workers and an in-person survey of 210 incarcerated individuals. A purposive sample of participants will be chosen from each group. Gay and lesbian individuals will be oversampled in the MT group to ensure sufficient sample sizes for analyses within each of these populations. The incarcerated group will be equally stratified between individuals who have been arrested for an IPV-related offense and those arrested for a non IPV-related offense.

- The subpopulation to be studied: Subpopulations to be studied will include individuals who identify as gay or lesbian. There is a dearth of IPV research conducted with gay and lesbian populations. As such, much less is known about risk and protective factors, correlates, and the relationship dynamics associated with violence in these relationships. However, the limited evidence from surveillance data and research indicates that rates of IPV in same sex dyads are potentially greater than heterosexual dyads.

- How data will be analyzed: Data analysis will involve latent variable modeling comprising a combination of Factor Analysis and Latent Profile Analysis.

A. JUSTIFICATION

A.1.   Circumstances Making the Collection of Information Necessary

The Centers for Disease Control and Prevention (CDC) requests approval by the Office of Management and Budget (OMB) for 2 years for this new data collection to ascertain which factors or groups of factors may influence violence perpetration that occurs within adult intimate partner relationships.

Background

Intimate partner violence (IPV) is a substantial public health problem in the United States. Over a third of women and over a quarter of men have experienced rape, physical violence, and/or stalking by an intimate partner (Black, et al., 2011). Recognition of the importance and prevalence of this issue has fueled research to examine the causes, correlates, and outcomes of IPV over the past several decades. However, studies across various IPV research domains (e.g., etiology, prevention efficacy and intervention effectiveness) tend to view IPV as an isolated occurrence and rarely consider the contextual situation in which IPV occurs (Ali 2016; Capaldi 2007). For example, existing models may not distinguish between an act of physical violence perpetrated during an argument from an act of physical violence perpetrated as a constellation of physical, sexual, and psychological violence by one partner toward another for the purpose of dominating and controlling that partner.

As such, results from studies across these various domains of IPV research are mixed and difficult to reconcile. However, one pattern that is evident is that we currently have few effective strategies to prevent or reduce violence in intimate relationships among adults (Eckhardt et al., 2013; Whitaker et al., 2013). A potential reason for this could be the field's frequent conceptualization and measurement of IPV as though it is a unitary or singular phenomenon, in which acts of physical, sexual, and psychological aggression (including threats of physical or sexual violence and stalking) are counted and measured without sufficient attention to the context in which violence occurs (Reidy & Niolon, 2012). It is also important to recognize that there is a dearth of IPV research conducted with same sex dyad populations. As such, much less is known about risk and protective factors, correlates, and the relationship dynamics associated with violence in these relationships. However, the limited evidence from surveillance data and research indicates that rates of IPV in same sex dyads are potentially greater than heterosexual dyads (Edwards et al., 2015; Graham et al., 2016; Stiles-Shields & Carroll, 2015; Walters et al., 2013). If we can more explicitly identify and measure disparate types of relationship violence across different types of relationships, we may be able to be more precise in the development, testing, dissemination, and implementation of successful prevention strategies for IPV with greater proficiency and efficiency.

To that end, we need to gather more information about the factors or groups of factors that influence violence perpetration within adult intimate partner relationships and how they may vary for different individuals. This project will take the critical initial steps by collecting information from adults in the United States about their attitudes, perceptions, beliefs and experiences with violence in intimate relationships. Previous research has identified multiple factors that correlate or predict IPV such as witnessing violence as child, a history of substance

abuse, low impulse control, etc. In lived experience, however, these domains are interdependent and potentially interactive. We do not know precisely how they, in combination, influence different types of IPV perpetration. Therefore, this study will provide a preliminary step by collecting data from a large group of diverse adults to see how these factors may influence relationship dynamics, including physical, emotional, financial, psychological, stalking, and/or sexual violence.

The survey items (Attachment E) to be administered in the current project were selected based on an extensive developmental process involving 14 internal and external experts in the field of IPV and measurement development. AIR began the process by conducting a systematic literature review of 300+ peer reviewed publications on IPV and risk factors. Next, AIR implemented a cognitive mapping procedure with 9 external IPV subject matter experts and 4 internal CDC IPV subject matter experts. "Concept mapping is a type of structural conceptualization which can be used by groups to develop a conceptual framework which can guide evaluation and planning" (Trochim, 1989). Concept mapping consists of four structured steps: (1) brainstorming, (2) sorting and rating, (3) cluster analysis, and (4) interpretation. All subject matter experts developed short phrases and sentences that they believed were critical to understanding IPV perpetration. Next, all subject experts grouped sentences they believed were related and rated how important these groupings were in measuring IPV perpetration. The contractor then conducted cluster analysis on the sorted and rated statements to determine which groups of items that participants sorted together most often and their relative importance. Then, in a half-day session subject matter experts reviewed the findings and made recommendations for particular content domains and items to be on the survey. These procedures were used to identify essential domains of IPV risk and protective factors that need to be measured in this stage of data collection. From here, AIR and CDC generated a list of questions to assess these pertinent domains. Where possible questions were taken verbatim or modified from existing research measures and when necessary questions were developed specifically for this data collection purposes. The survey items were reviewed by the subject matter experts to refine and streamline (modify where necessary, remove superfluous items, ensure the relevance to pertinent IPV constructs) resulting in the current set of items to be administered (Attachment E). Attachment E1 provides an overview in table format of all questions in relation to the domains they assess, their relevance to IPV, and their justification for inclusion in the proposed data collection.

The proposed data collection fits into the National Center for Injury Prevention and Control Research Agenda Priorities in Preventing IPV (National Center for Injury Prevention and Control, n.d.) with regard to priority #1 ("Identify and measure contextual typologies for TDV and adult IPV to guide prevention planning and improve evaluation quality."). Specifically, it is hoped that using latent variable statistical analysis of the data collected from a targeted and diverse convenience sample we may identify latent groups of adults that perpetrate IPV who share similar attributes and contextual precipitants. This information could be used to test whether these subgroups of perpetrators with co-occurring attributes replicate in future research with differing samples from disparate populations. Ultimately, if any latent groups of perpetrators identified from the current exploratory research are reliably replicated across diverse samples, these attributes may offer fruitful information for the development of new prevention strategies for IPV. However, the present research reflects only a preliminary step in a much

larger multi-phase research agenda that would require replication with disparate samples and rigorous sampling strategies before intervention methods could be developed and applied.

Authority for CDC's National Center for Injury Prevention and Control to collect this data is granted by Section 301 of the Public Health Service Act (42 U.S.C. 241) (Attachment A). This act gives federal health agencies, such as CDC, broad authority to collect data and do other public health activities, including this type of study. The published 60-Day Federal Register Notice (Attachment B) and Institutional Review Board (IRB) documentation (Attachment C) are included with this package.

The screener survey (Attachment D) and the Understanding Relationship Conflicts and Dynamics survey (Attachment E) are the instruments used for this data collection. This survey was created based on results from a literature review and input and feedback with non-federal subject matter experts and consultants.

A.2.   Purpose and Use of Information Collection

The end goal for this current project is to have a set of preliminary latent classes (i.e., typologies) of IPV perpetrators identified that will be used for the second phase of the our overarching research agenda. This larger research agenda involves the following stages: Phase 1) gather data from a targeted and diverse convenience sample to explore the presence of potential latent classes of IPV perpetrators (the current study); Phase 2) seek to replicate the existence of identified latent classes in alternative samples from disparate populations using more rigorous sampling designs; Phase 3) collect data from new samples to perform differential item performance analysis and develop the most parsimonious measurement models for latent classes; Phase 4) conduct research studies to explore the distinguishing violence characteristics and precipitants that may proffer areas of intervention; Phase 5) develop targeted prevention strategies based on knowledge gleaned from phase 3 research; Phase 6) evaluate developed prevention strategies for efficacy and effectiveness; Phase 7) disseminate effective prevention strategies.

The data collected are a necessary starting point to deepen our understanding of relationship dynamics, including violent attitudes, beliefs and perpetration. At the end of the study, we hope to have identified a latent group or groups of IPV perpetrators based on shared experiences and characteristics that could be tested in future research with differing population samples and alternative sampling strategies. In the long term, we hope this information could inform the generation of hypotheses about which groups of factors may be important in defining or demarcating different types of violent intimate relationships that may necessitate disparate types of intervention to be effective. Future research can test and refine these preliminary constructs through rigorous and statistically generalizable methods.

The respondent universe is a non-probabilistic sample from the general population (with an oversampling of gay and lesbian) and incarcerated population living in five Midwestern facilities. The study cannot, nor is it intended to capture the prevalence of IPV or generalize findings to the entire U.S. population. Instead, the respondent universe will be a targeted and diverse convenience sample that allows for lower cost data collection to gather opinions and beliefs about relationships and violence in addition to other behaviors (e.g., substance use) and

historical experiences (e.g., trauma) of perpetrators. The inclusion of incarcerated individuals in our sample is necessary because IPV represents a small proportion (approximately 15%) of all reported and unreported violence occurring in the U.S. (Cooper & Smith, 2011; Truman & Morgan, 2014). Given our knowledge that an even smaller proportion of the population commits the majority of violence (Beaver, 2013; Coid & Yang, 2011; Tacy et al., 1990; Vaughn et al., 2014; Wolfgang et al., 1972), we can assume that far less than 15% of the population has perpetrated IPV. Thus, we are including incarcerated individuals in our convenience sample to increase the rates of IPV perpetrators included in the proposed sample. Conversely, the sample will obviously also include people who have never been in a violent intimate relationship given they represent the majority of the population. These individuals are likewise necessary because some will have experienced risk factors for violence (such as history of child abuse or substance use) and yet are not perpetrators of violence. In formative research such as this it is necessary to use previous research to construct a wide net so we can begin to see in a single sample which factors appear to be necessary and sufficient conditions for violent perpetration. These findings will be a first step in understanding violent perpetrators that can be used in future research to generate and test hypotheses.

The respondent universe consists of 2,210 adults (18 years or older) from two populations: the general population (n=2,000) who live in the United States and incarcerated individuals (n=210) who live in Indiana. Gay and lesbian individuals will be oversampled to represent half of the sample of Mechanical Turk (MT) workers. Oversampling of gay and lesbian respondents is essential to obtain sufficient sample sizes in these populations because approximately 97% of the U.S. population identifies as heterosexual (Walters, Chen, & Breiding, 2013). Pertinently, MT proffers rates of sexual minority respondents almost triple that of the general population (Chandler & Shapiro, 2016). Thus, MT is a particularly useful site for recruiting gay and lesbian populations. Among the incarcerated individuals, half of the group will be incarcerated for an IPV-related offense specifically and the other half will have been incarcerated for an offense other than an IPV specific one. We expect that these groups of offenders will not be mutually exclusive (i.e., IPV offenders will have a history of other convictions and general offenders will have perpetrated IPV). However, it is important include this targeted stratified sampling procedure to ensure a high number of convicted IPV perpetrators and because previous research suggests these different offenders may differ in the nature of their IPV perpetration and the factors associated with their violence (e.g., Holtzworth-Munroe et al., 2000).

By surveying incarcerated IPV offenders, non-IPV offenders, and the general population, we hope to begin to identify any notable patterns of similarity or difference in socio-psychological characteristics and behaviors that correlate to particular relationship dynamics of perpetrators and non-perpetrators. Involving incarcerated IPV offenders allows us to collect data from individuals who, we can confirm through their criminal history, have actually perpetrated IPV. Surveying people who have an IPV offense record allows us to obtain data from a small convenience sample of people who may have committed particularly severe or frequent offenses. We hypothesize that the experience and personal characteristics of this group of interviewees may be different from those of the non-incarcerated population, and thus will be valuable to better understanding indicators that could predict patterns of aggression. By surveying the a convenience sample of the general population and a convenience sample of incarcerated individuals who have committed certain types of offences, we may be able to generate preliminary hypotheses about shared sets of IPV behaviors.

A.3.   Use of Improved Information Technology and Burden Reduction

We will utilize web- and computer-based surveys to collect and process data to reduce respondent burden and make data processing reporting more timely and efficient. A data collection software package, such as DatStat Illume or Unicom Intelligence, will be used to program and administer the survey. The survey contains several complicated skip patterns. The programmed survey automatically skips questions based on the individual's responses. This automation saves administration time, improves data quality, and reduces burden by removing the need for the respondent to manually navigate skip patterns, which would be required if the survey was administered by paper and pencil. It also reduces burden because participants only need to read the survey questions that are relevant to them. Time and cost for data processing is reduced because the data is collected and entered at the same time and is quickly available for analysis. All surveys will take place using electronic survey forms.

The general population sample will be a crowdsourced sample from Mechanical Turk (MT). MT is a low-cost low-burden method of crowdsourcing human intelligence tasks (HIT) that has been used for social science research (Paolacci & Chandler, 2014). MT "workers" will be able to complete the programmed online survey via the online MT platform. Crowdsourcing participation from a large pool of potential respondents in this way is less costly and reduces burden on participants as compared to recruiting this target sample through other means, such a recruiting firm.

Other federal surveys have used MT for data collection. A study sponsored by the National Center for Health Statistics used MT to evaluate questionnaire design of the 2015 National Health Interview Survey Cancer Control Supplement (Fowler et. al., n.d.). The authors found MT to be a strong platform for questionnaire design testing and recommended further evaluations of MT for use in federal non-probability based sample data collection. The Understanding Relationship Dynamics and Conflict Survey, the instrument being used for this data collection, offers the opportunity to evaluate the use of MT in this type of data collection. Results of this study can inform future uses of MT for federal data collections.

Data collection for the incarcerated population will occur in-person at the prison facilities. The programed survey will be administered on iPads and in-person. Individuals who are low-literate will be surveyed through computer assisted personal interviewing. Otherwise, individuals will self-administer the survey on the iPad. These interviews will use the software package's offline data collection mode.

A.4.   Efforts to Identify Duplication and Use of Similar Information

There are no existing studies that have identified classes of IPV perpetrators that can be generalized to the general population. There is a large body of research on classes of IPV perpetrators; however, this research is sample specific, often contradictory, disallowing generalization of identified classes. We have confirmed this through ongoing interactions and discussions with the leading IPV researcher[s and practitioners throughout the country, including four expert consultants on this project. The non-federal partners who were consulted are included in the table in Section A.8 (Table 1). Additionally, a pair of exhaustive literature reviews of IPV typologies and associated risk factors conducted by the American Institute for Research (AIR) in

2016 confirmed that no existing studies have identified generalizable classes of IPV perpetrators (reports available upon request). AIR searched four electronic journal databases that gave the most robust access to literature about IPV that has been examined using a social science and biological perspective: (1) PubMed, (2) CINAHL, (3) PsycINFO, and (4) SocINDEX. AIR also searched web sites of organizations that have a prominent history in IPV research and the National Criminal Justice Reference Service, an online database that catalogs all published research funded by the Office of Justice Programs. Ultimately, AIR screened 3,193 abstracts that met the literature review criteria, and determined that no study has identified classes of IPV perpetrators that can be generalized to the general population.

The Department of Justice does conduct a Survey of Sexual Victimization within correctional facilities (OMB approved ICR from DOJ 1121-0292). However, this survey is in no-way duplicitous because the present survey is not collecting information about sexual victimization in forensic settings. The present survey pertains to the perpetration of IPV and SV. And although there are limited questions about a history of sexual victimization as a child, we do not ask about sexual victimization during incarceration.

A.5.   Impact on Small Businesses or Other Small Entities

No small businesses will be involved in this data collection.

A.6.   Consequences of Collecting the Information Less Frequently

Data collection will occur once.

A.7.   Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

The request fully complies with the regulation 5 CFR 1320.5.

A.8.   Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

A.8.a) Federal Register Notice
A 60-day Federal Register Notice was published in the Federal Register on December, 2, 2016, vol. 81, No. 232, pp. 87037-87038 (Attachment B). CDC received one anonymous non-substantive and one substantive public comment (Attachment B1) and replied with a response (Attachment B2).

To make a good faith attempt at addressing the reviewer's comments, CDC staff conducted a full review of all procedures and documents by members of the Associate Director for Science Office, the Office of General Council, and members of AIR's IRB team. It was agreed that every precaution had been taken to ensure the ethical treatment of all participants in this research (Attachment B2).

A.8.b) Efforts to Consult Outside the Agency

CDC contracted AIR for development, sampling, and administration of the survey. In addition to the cadre of methodological and statistical experts from AIR working on this project, AIR and CDC obtained ongoing feedback from 9 highly renowned subject experts in the field of IPV research. The subject matter experts contributed to the development of the survey and provided ongoing feedback on questionnaire design and sampling procedures (Table 1

Specifically, CDC and AIR staff consulted with the following individuals on the listed aspects of the resource and project:

Table 1: Consultants and Subject Matter Experts

Person	Agency/ Affiliation	Dates of Involvement	Type of Consultation
Jacquelyn Campbell, Ph.D.	Johns Hopkins University	October 2015 – June 2016-	Subject Matter Expert
Michele Decker, Ph.D.	Johns Hopkins University	October 2015 – June 2016-	Subject Matter Expert
Emily Rothman, Ph.D.	Boston University	October 2015 – June 2016-	Subject Matter Expert
Gregory Stuart, Ph.D.	University of Tennessee	February- June 2016	Subject Matter Expert
Carlos Cuevas, Ph.D.	Northeastern University	February- March 2016	Subject Matter Expert
Deborah Capaldi, Ph.D.	Oregon Social Learning Center	February- March 2016	Subject Matter Expert
Christopher Eckhardt, Ph.D.	Purdue University	February- March 2016	Subject Matter Expert
Daniel O'Leary, Ph.D.	Stony Brook University	February- March 2016	Subject Matter Expert
Daniel Saunders, Ph.D.	University of Michigan	February- March 2016	Subject Matter Expert
Katherine Masyn, Ph.D.	Georgia State University	August 2016 – October 2017	Subject Matter Expert (Statistician)

Additionally, per OMB request, CDC and AIR reached out to and responded to all feedback from Dr. E. Ann Carson at the Bureau of Justice Statistics. In addition, Dr. Katherine Masyn is an expert in latent variable modeling and specifically in the procedures to be used here. She has provided ongoing consultation on the analytic methods.

A.9. Explanation of Any Payment or Gift to Respondents

MT will be used to recruit participants for this survey. Participants will also complete the survey via the MT interface. We found, in thoroughly reviewing recent MT tasks, most psychology surveys and studies of family experience in young adulthood and other types of similar work on MT provide about $0.25 for a 3-5 minute survey, $0.50 for a 5-7 minute survey and about $4-6 for a 40 to 60 minute survey. Berinsky et al. (2012) reported that workers received $0.75 for 5-9 minutes surveys and $0.45 for 3-4 minute surveys. Tasks with higher incentives also receive a larger number of completions (300-400 completions) within the first day after posting compared to tasks with lower incentives (100-300 completions) (Berinksy, et al., 2012).

After reviewing the previous research, our token of appreciation scheme is as follows. To remain consistent and competitive with other MT tasks, participants will receive $0.10 for completing the short screener survey. Those sampled to complete the full survey will receive three dollars for completing the survey and a bonus of two dollars if they answer at least 90% of the questions, for a maximum total incentive of five dollars. The incentive scheme is designed in this way improve the quality of submissions. Our tokens of appreciation are comparable to what other tasks offer. MT participants can transfer the token of appreciation to their Amazon Payments account, which can be transferred to an Amazon gift card.

In studies with the incarcerated population, efforts are usually focused on preventing coercion. We recognize that completion of the survey is burdensome due to the subject matter and length of the survey. The topics we ask about may disproportionally affect the incarcerated population. The National Inmate Survey (OMB #1121-0311), a survey of inmates about sexual violence in correctional facilities, provided respondents with a non-monetary token of appreciation such as stamps.

Incarcerated individuals who choose to complete the survey will receive a non-monetary token of appreciation (e.g. a snack such as a piece of fresh fruit or a candy bar) for their time. This token of appreciation is appealing, but not so appealing that it is coercive. This token is also consistent with previous federal surveys of inmates. An edible token also does not create a permanent link between the prisoner and their participation in the study.

A.10. Protection of the Privacy and Confidentiality of Information Provided by Respondents

This submission has been reviewed by the NCIPC's Information Systems Security Officer, who has determined that the Privacy Act does not apply because CDC will not have access to or receive any personally identifiable information (PII) about participants. The contractor will receive administrative data, which includes PII, about the incarcerated population in order to build the sample frame. This information will not be linked to survey data and CDC will not have access to the sampling frame. Once data collection is complete, this information will be securely destroyed. For MT participants, no PII will be collected. The IPVTM will be housed in the Surgeon General's Report Smoking Collaboration tool and will use their current Authorization to Operate. The Privacy Impact Assessment (PIA) is attached (Attachment G).

IPVTM data is collected using the following: (1) Data from the general community populations will be collected via Amazon's Mechanical Turk (M-Turk) website (https://www.mturk.com/mturk/welcome). M-Turk is an on-line crowd sourcing website that

allows individuals to voluntarily respond to surveys of their choosing in exchange for an incentive. The data is already collected and managed by Amazon's Mechanical Turk. CDC will not have access to or receive any personally identifiable information (PII) about participants. (2) Data from forensic populations will be collected via in-person interviews conducted by the project contractor, American Institute for Research (AIR). CDC will not have access to or receive any personally identifiable information (PII) about participants. The contractor will have access to the names of sampled individuals from the incarcerated population only on days when data collection is occurring in the prisons. The contractor will not retain these lists outside of the facilities. The lists will be shredded by prison staff. Each respondent from the incarcerated population will be assigned a code number. Only the respondents' code number, not their name, will be linked to survey data. For the incarcerated population, the consent form is the only document or file that will include the respondents' name. Only the contractor will have access to these forms. For MT participants, no PII will be collected.

During the informed consent process (Attachment F), survey respondents will be informed of the purposes for which the information is collected and that their name will not be connected with anything they say. Responses will only be identified by a code number given to them by AIR. Results will only be reported for groups of participants. None of the information shared in connection with the participant's identity will be released outside of the research team. There is one exception to this, however. We will inform incarcerated participants that if they disclose information that leads us to believe there is child abuse or elder/disabled abuse occurring, we are mandated by law to report this to authorities. There is no opportunity for MT respondents to disclose information subject to mandated reporting because the survey does not ask about it and there are no open-response questions.

Attachment F contains the consent forms for both the screener and full survey (Mechanical Turk population) and for the full survey (incarcerated population).

For MT respondents, all data will be temporarily stored on the survey software's secure server and will be securely transferred to a FISMA compliant server for storage. The online survey software's servers, databases, and web presences will be and employ multiple forms of security features. Their security protocols are designed to protect the data as well as the confidentiality of research participants.

For incarcerated individuals, all paper consent forms will be stored in a secure, locked location. The survey data collected through the survey software will be stored on the software's secure server. Data will be uploaded to the survey software servers daily, or as soon as possible, and taken off of the iPad. The online survey software's servers, databases, and web presences will be HIPAA compliant and employ multiple forms of security features. Their security protocols are designed to protect the data as well as the confidentiality of research participants. After data collection, data will then be transferred to a FISMA compliant server for storage. AIR staff will be in possession of the iPads and monitor their use at all times. All iPads will be password protected and stored in locked storage containers when not in use. At night, iPads will be stored in a locked, secure location at AIR's Indianapolis office.

A.11.   Institutional Review Board (IRB) and Justification for Sensitive Questions

IRB Approval

The CDC National Center for Injury Prevention and Control's human subjects coordinator has determined that CDC will be non-engaged in this human subjects research. In general, an institution is considered *engaged* in a particular non-exempt human subjects research project when its employees or agents for the purposes of the research project obtain: (1) data about the subjects of the research through intervention or interaction with them; (2) identifiable private information about the subjects of the research; or (3) the informed consent of human subjects for the research. Because CDC is considered non-engaged, approval from CDC's own IRB is not required. It was determined that this human subjects research would be reviewed by the project contractor's IRB because they included a prisoner's advocate members and previously reviewed projects conducting research with incarcerated populations. American Institute for Research, conducted a full IRB review that included the required review by a prison advocate for this project. The IRB Approval Letter can be found in Attachment C1. Modifications to the approved IRB were made in response to public comments during the 60 day review. The contractor obtained IRB approval of these modifications. The IRB Approval of Modifications Letter can be found in C2. As indicated in the letter, IRB conducted a review of the study and procedures and has approved the research.

Sensitive Questions

Some questions included in survey instruments might be considered sensitive by some respondents (Table 2). Potential sensitive issues include, violence that occurred within and outside of intimate partner relationships, substance use and abuse, sexual behavior, psychological conditions, attitudes that condone violence, and adverse childhood experiences. We will ask about violence that is physical, emotional, sexual, or stalking.

Table 2. Justification for Sensitive Questions

Description of Questions	Justification for Inclusion	Use of Data
Adverse Childhood Experiences	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Acceptance of Violence	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.

Stalking	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Power and Control	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Relationship Context	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Relationship Discord/Satisfaction	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Intimate Partner Violence Perpetration and Victimization	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Psychological Conditions	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.

Substance Use	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Sexual Preference and Attraction	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.
Gender Roles	Identified through a literature review, by IPV subject matter experts, and by consultants as a factor important for distinguishing perpetrator typologies and the context of violence	Used in a multistage latent variable modeling analysis to identify latent groups of individuals that perpetrate IPV.

The informed consent protocol (Appendix F) apprises participants that these topics will be covered during the surveys. Participants will be permitted to skip questions that they do not feel comfortable answering. All sensitive questions have been used previously in research and are from or modified from various validated assessment tools (e.g., The National Intimate Partner and Sexual Violence Survey (NISVS), The Adverse Childhood Experiences (ACE) Study). Survey items were also cognitively tested with individuals from the general population and previously incarcerated population. The questionnaire was edited based on results from cognitive testing. As with all information collected, these data will be presented with all identifiers removed.

Attachment E contains the survey instrument and Attachment D contains the screener survey.

A.12. Estimates of Annualized Burden Hours and Costs

Burden estimates were derived based on the number and nature of the questions, and the administration methods (e.g. self-administered or interviewer administered).

The average response burden per questionnaire, and the total response burden. The estimated hour burden was assessed through dry runs with 6 AIR staff. These estimates are approximate and can vary based on the respondents' pattern of response. The self-administered dry run was conducted using pencil and paper mode and the interview administered dry run was conducted without the use of computer programming. The actual survey administration will be done online and through computer assisted personal interviewing. Total burden hours will be 2,645 hours (2,382 hours for Mechanical Turk respondents and 262 hours for incarcerated respondents). We anticipate that the screener survey will take 5 minutes to complete and the full survey will take

between 50 minutes to 75 minutes to complete (depending on if the survey is self-administered or interview administered). The screener survey will be completed by a total of 8,600 respondents. The screener survey contains 7 questions about demographic information (e.g., age, education, ethnicity, etc.) and is fully described in the SSB. The full survey will be completed by a total of 2,000 MT respondents and 210 incarcerated individuals. Table 3 details the annualized number of respondents and burden hours.

Table 3. Estimated Annualized Burden Hours

Type of Respondents	Form Name	Number of Respondents	Number of Responses per Respondent	Average Burden per Response (in hours)	Total Burden (in hours)
Mechanical Turk Survey Respondents	Screener Survey (Attachment D)	4,300	1	5/60	358
Mechanical Turk Survey Respondents	Understanding Relationship Dynamics and Conflict Survey (Attachment E)	1,000	1	50/60	833
Incarcerated Survey Respondents	Understanding Relationship Dynamics and Conflict Survey (Attachment E)	105	1	1.25	131
Total					1322

A.12.b) Annual burden cost

The estimated annualized burden costs are presented in Table 4. Hourly wage used to calculate the Respondent Cost is $25.61 for MT participants, which the Bureau of Labor Statistics reported as the average hourly wage for civilian workers in the United States as of June 2016. The hourly wage used to calculate the Respondent Cost is $7.25 for incarcerated participants, which is the minimum wage under the Fair Labor Standards Act (FLSA).

Table 4. Estimated Annualized Burden Costs

Type of Respondents	Form Name	Number of Respondents	Total Burden (in hours)	Average Hourly Wage Rate (in dollars)	Total Respondent Cost
Mechanical Turk Survey Respondents	Screener Survey (Attachment D)	4,300	358	$25.61	$9,168

Mechanical Turk Survey Respondents	Understanding Relationship Dynamics and Conflict Survey (Attachment E)	1,000	833	$25.61	$21,333
Incarcerated Survey Respondents	Understanding Relationship Dynamics and Conflict Survey (Attachment E)	105	131	$7.25	$950
			Total		$31, 451

A.13. Estimates of Other Total Annual Cost Burden to Respondents or Record Keepers

Respondents will not incur capital or maintenance costs other than their time to participate in the survey.

A.14. Annualized Cost to the Government

Contractual costs:
This is a contracted data collection. CDC has contracted with AIR to collect this data. The total cost of the contract is $185,840 (Table 5).

Table 5. Contractual costs

Budget Line Item	Budget
Personnel Costs	$180,943
Other Direct Costs	$2,129
Tokens of Appreciation	$2,275
G&A + Fixed Fee	$493
Contractual Cost	$185,840

Federal employee costs:
Example:
 NCIPC has assigned a Project Officer and Science Officer to assist with and oversee this data collection. A CDC project officer (GS-12) and science officer (GS-13) devote 10% of their FTE for an estimated cost of $17,500 per year for 2 years (for a total of $35,000) (Table 6).

Table 6. Federal Employee Costs

Year	Budget
Year 1	$17,500
Year 2	$17,500
TOTAL	**$35,000**

Total project cost to the Federal Government is **$220,840** (Years 1-2 Contract Cost + Years 1-2 CDC Labor).

A.15. Explanation for Program Changes or Adjustments

This is a new data collection.

A.16. Plans for Tabulation and Publication, and Project Time Schedule
Table 7 shows plans for tabulation and publication.

Table 7. Plans for Tabulation and Publication

Activity	Time schedule
• Recruitment of study participants	Beginning 5 weeks immediately after OMB approval
• Participants complete study and measures	Beginning 5 weeks immediately after OMB approval and ongoing
• Data entry and cleaning	Beginning 5 weeks immediately after OMB approval and ongoing
• Delivery of final data set to CDC	Beginning a year after the start of data collection and ongoing
• Analysis of data	Beginning a year after the start of data collection and ongoing
• Publication of initial results	By 10/01/2020

The final cleaned dataset is to be delivered to CDC from AIR by September 30, 2018. CDC expects data analysis to take approximately six months. All analyses will be performed with Mplus version 8. Mplus utilizes full information maximum likelihood (FIML) to deal with missing data. FIML is considered superior to other methods of dealing with missing data such as multiple imputation, mean replacement, or pairwise deletion in that it is more efficient and less biased (Wang & Wang, 2012).

The data analysis and reduction will occur in two steps. In the first step we will use Factor Analysis to reduce individual items (i.e., questions) into latent constructs (i.e., factors). We will then use these scales to conduct latent profile analysis (LPA). LPA is a person-centered finite mixture modeling procedure that uses multiple continuous indicators (in this case the factors identified from the factor analysis) to estimate distinct classes (or typologies) among respondents (Masyn, 2013). LPA is ideal because it can identify different profiles based not only on the frequency or degree of various indicators, but also based on which indicators seem to co-occur (Wang & Wang, 2012).

Determining the number of latent classes is guided by use of comparative fit indices (AIC and aBIC) and Likelihood Ratio Tests across models with sequentially increasing numbers of classes (Masyn, 2013; Nylund, Wang & Wang, 2012). The best fitting most parsimonious models are those that minimize the fit indices (AIC and aBIC) and for which adding an additional class leads to a worsening of fit as indicated by the Likelihood Ratio Tests.

The results of this project will be reported in peer-reviewed journal articles (e.g., *American Journal of Public Health, Psychology of Violence, Journal of Primary Prevention, Journal of Interpersonal Violence, Journal of Consulting and Clinical Psychology, Prevention Science,*

etc.), conference presentations, research briefs, and Web-based papers for dissemination to researchers.

A.17. Reason(s) Display of OMB Expiration Date is Inappropriate

The display of the OMB expiration date is not inappropriate.

A.18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.

REFERENCES

Ali, P. A., Dhingra, K., & McGarry, J. (2016). A literature review of intimate partner violence and its classifications. *Aggression and violent behavior*.

Beaver, K. M. (2013). The familial concentration and transmission of crime. Criminal Justice and Behavior, 40(2), 139-155.

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon. com's Mechanical Turk.*Political Analysis, 20*(3), 351-368.

Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Brick, J. M., & Williams, D. (2013). Explaining rising nonresponse rates in cross-sectional surveys. *The ANNALS of the American Academy of Political and Social Science, 645*(1), 36-59.

Capaldi, D. M., & Kim, H. K. (2007). Typological approaches to violence in couples: A critique and alternative conceptual approach. *Clinical psychology review, 27*(3), 253-265.

Coid, J., & Yang, M. (2011). The impact of psychopathy on violence among the household population of Great Britain. Social Psychiatry & Psychiatric Epidemiology, 46, 473–480.

Cooper, A., & Smith, E. L. (2011). Homicide trends in the United States, 1980–2008. Washington, D.C.: Bureau of Justice Statistics. NCJ 236018.

Curtin, R., Presser, S., & Singer, E. (2000). The effects of response rate changes on the index of consumer sentiment. *Public Opinion Quarterly, 64*(4), 413-428.

Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual Review of Clinical Psychology*, 12, 53-81.

Eckhardt, C. I., Murphy, C. M., Whitaker, D. J., Sprunger, J., Dykstra, R., & Woodard, K. (2013). The effectiveness of intervention programs for perpetrators and victims of intimate partner violence. Partner abuse, 4(2), 196-231.

Edwards, K. M., Sylaska, K. M., & Neal, A. M. (2015). Intimate partner violence among sexual minority populations: A critical review of the literature and agenda for future research. Psychology of Violence, 5(2), 112.

Federal Bureau of Prisons. UNICOR: Program Details. Accessed at https://www.bop.gov/inmates/custody_and_care/unicor_about.jsp.

Fowler, S., Willis, G., Moser, R., Ferrer, R., & Berrigan, D. Use of Amazon MTurk Online Marketplace for Questionnaire Testing and Experimental Analysis of Survey Features. Retrieved from https://fcsm.sites.usa.gov/files/2016/03/C2_Fowler_2015FCSM.pdf.

Graham, L. M., Jensen, T. M., Givens, A. D., Bowen, G. L., & Rizo, C. F. (2016). Intimate partner violence among same-sex couples in college: a propensity score analysis. Journal of interpersonal violence. DOI:0886260516651628.

Groves, R. M., Singer, E., & Corning, A. (2000). Leverage-saliency theory of survey participation: description and an illustration. *The Public Opinion Quarterly, 64*(3), 299-308.

Göritz, A. S. (2006). Incentives in web studies: Methodological issues and a review. *International Journal of Internet Science, 1*(1), 58-70.

Holtzworth-Munroe, A., Meehan, J.C., Herron, K., Rehman, U., & Stuart, G. L. (2000). Testing the Holtzworth-Munroe and Stuart (1994) batterer typology. Journal of Consulting and Clinical Psychology, 68, 1000-1019.

James, T. L. (1997). Results of the wave I incentive experiment in the 1996 Survey of Income and Program Participation. *Report to the U.S. Bureau of the Census*, 834-839.

Masyn, K. E. (2013). Latent class analysis and finite mixture modeling. In T.D. Little (Ed.) *The Oxford Handbook of Quantitative Methods* (pp. 551-611). New York: Oxford University Press.

Meyer, I. H., & Wilson, P. A. (2009). Sampling lesbian, gay, and bisexual populations. *Journal of Counseling Psychology, 56*(1), 23.

Morgan, R. E., & Truman, J. L. (2014). Nonfatal domestic violence 2003–2012. Washington, DC: Bureau of Justice Statistics, US Department of Justice.

National Center for Injury Prevention and Control. CDC Injury Research Agenda Research Priorities. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention. Available at http://www.cdc.gov/injury/pdfs/researchpriorities/cdc-injury-research-priorities.pdf#page=4.

Nylund, K. L., Asparouhov, T., & Muthen, B. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling. A Monte Carlo simulation study. *Structural Equation Modeling, 14,* 535-569.

Paolacci, G. & Chandler, J. (2014). Inside the turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science, 23,* 184-188.

Reidy, D.E. & Niolon, P.H. (2012). Directions for future research on the nature and prevention of intimate partner violence. In B. C. Guevara & N. A. Becerra's (Eds.) *Psychology of Aggression: New Research.* Hauppauge, NY: Nova Science Publishers.

Singer, E., & Couper, M. P. (2008). Do incentives exert undue influence on survey participation? Experimental evidence. *Journal of Empirical Research on Human Research Ethics, 3*(3), 49-56.

Stiles-Shields, C., & Carroll, R. A. (2015). Same-sex domestic violence: Prevalence, unique aspects, and clinical implications. Journal of sex & marital therapy, 41(6), 636-648.

Tracy, P.E., Wolfgang, M.E., & Figlio, R.M. (1990). Delinquency careers in two birth cohorts. New York: Plenum Press.

Trochim, W. M. (1989). An introduction to concept mapping for planning and evaluation. Evaluation and program planning, 12(1), 1-16.

Vaughn, M.G., Salas-Wright, C.P., Delisi, M., & Maynard, B.R. (2014). Violence and externalizing behavior among youth in the United States: Is there a severe 5%? Youth Violence & Juvenile Justice, 12, 3-21.

Walters, M. L., Chen, J., & Breiding, M. J. (2013). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 findings on victimization by sexual orientation.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Retrieved from http://www.cdc.gov/violenceprevention/pdf/nisvs_sofindings.pdf

Wang, J. & Wang, X. (2012). *Structural equation modeling: Applications using Mplus.* Hoboken, NJ: John Wiley and Sons.

Whitaker, D. J., Murphy, C. M., Eckhardt, C. I., Hodges, A. E., & Cowart, M. (2013). Effectiveness of primary prevention efforts for intimate partner violence. Partner abuse, 4(2), 175-195.

Wolfgang, M.E., Figlio, R.M., & Sellin, T. (1972). Delinquency in a birth cohort. Chicago: University of Chicago Press.