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RESEARCH ARTICLE

Inventory of U.S. Public Data Sources to Measure the Socioeconomic Impact of Experiencing Interpersonal Violence



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Introduction: There is limited recent information regarding the impact of interpersonal violence on an individual's non-health-related experiences and attainment, including criminal activity, education, employment, family status, housing, income, quality of life, or wealth. This study aimed to identify publicly available representative data sources to measure the socioeconomic impact of experiencing interpersonal violence in the U.S.

Methods: In 2022, the authors reviewed data sources indexed in Data.gov, the Inter-university Consortium for Political and Social Research data archive, and the U.S. Census Bureau's Federal Statistical Research Data Center network to identify sources that reported both nonfatal violence exposure and socioeconomic status—or data sources linking opportunities to achieve both measures—over time (i.e., longitudinal/repeated cross-sections) at the individual level. Relevant data sources were characterized in terms of data type (e.g., survey), violence measure type (e.g., intimate partner violence), socioeconomic measure type (e.g., income), data years, and geographic coverage.

Results: Sixteen data sources were identified. Adverse childhood experiences, intimate partner violence, and sexual violence were the most common types of violence faced. Income, education, and family status were the most common socioeconomic measures. Linked administrative data offered the broadest and the most in-depth analytical opportunities.

Conclusions: Currently, linked administrative data appears to offer the most comprehensive opportunities to examine the long-term impact of violence on individuals' livelihoods. This type of data infrastructure may provide cost-effective research opportunities to better understand the elements of the economic burden of violence and improve targeting of prevention strategies. AJPM Focus 2023;2(3):100114. © 2023 The Authors. Published by Elsevier Inc. on behalf of The American Journal of Preventive Medicine Board of Governors. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

INTRODUCTION

Research has identified relationships between interpersonal violence and a range of negative long-term health and other consequences. 1-5 Previous studies have also estimated the substantial cost of violence, 6-12 hence providing important information for understanding the cost-effectiveness of violence prevention strategies. 13-15

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Recent cost-of-violence studies have focused on the impact of violence on health using mathematical modeling (combined data from separate studies) of observational outcomes obtained from cross-sectional sample survey data. ^{9–11} For example, to estimate the long-term cost of intimate partner violence, researchers combined the lifetime cost of medical care for depression with the attributable prevalence of depression among the survivors of intimate partner violence. ¹¹ Using observational cross-sectional data in this way is relevant given the data landscape, but it complicates the interpretation of violence as a cause for long-term health-related conditions and costs.

Furthermore, there is limited recent information about the impact of interpersonal violence on individuals' non-health-related experiences and attainment, including criminal activity, education, employment, family (including marital) status, housing, income, quality of life, or wealth. For example, one frequently cited study compared arrest records of adults up to the age of 40 years with or without substantiated reports of child maltreatment processed by U.S. courts during the years 1967-1971; this study quantified the way in which childhood abuse and neglect were associated with worse educational performance, worse mental health, lower achievement, and higher incidence of arrests in adulthood.¹⁶ New original direct estimates of the socioeconomic impact of interpersonal violence using individual-level longitudinal data and econometric methods to strengthen the causal interpretation of the impact of violence would improve estimates of the economic burden of violence and the cost-effectiveness of the prevention strategies. This study aimed to identify opportunities in the current publicly available representative data sources to measure the impact of interpersonal violence on socioeconomic outcomes in the U.S.

METHODS

Study Sample

This study used publicly available data and no human subjects. In 2022, the authors searched 3 publicly available data archives: www.data.gov, the Inter-university Consortium for Political and Social Research (ICPSR) data archive, and the U.S. Census Bureau's Federal Statistical Research Data Center (FSRDC) network. The website www.data.gov operationalizes the 2018 OPEN Government Data Act, which requires government data to be available in machine-readable formats while ensuring its privacy and security. ICPSR maintains an extensive archive of data sources for social and behavioral sciences research. The FSRDC network provides qualified researchers access to restricted-use anonymized

microdata (such as person-level records), with opportunities for linking to networked data sources using a securely assigned person-level personal identification key.¹⁸

Measures

Interpersonal violence was defined as adverse childhood experiences (abuse-physical, emotional, or sexual-or household member substance misuse, incarceration, mental illness, parental divorce, or intimate partner violence), bullying, community violence, elder abuse, intimate partner violence, sexual violence, or youth violence (Table 1^{19–35}). Socioeconomic status measures were defined as criminal activity, education, employment, family status, housing, income, quality of life (i.e., formal scale such as the Short Form Health Survey), or wealth. Inclusion criteria for data source search were: ≥1 nonfatal interpersonal violence and temporally later socioeconomic status measure (either directly reported or via data source linking), representative sample (not a convenience sample), individual person reporting unit, and longitudinal record type (multiple records over time for the same person or repeated cross-sections that measure violence exposure and are linkable to the outcomes measured at a later point in time, without any requirement regarding the amount of time between measurements).

Data Analysis

A keyword search was conducted at www.data.gov and ICPSR, and the current FSRDC networked data source list was reviewed³⁶ (Table 1). Keywords were used to search the available meta data to identify an initial pool of data resources that might include analytic measures that matched our definitions of violence and socioeconomic outcomes. Then, available data documentation was reviewed to identify data resources that included analytic measures of concepts matching our definitions of violence and socioeconomic outcomes. Qualifying data sources were characterized in terms of data type (e.g., survey), violence measure type (e.g., intimate partner violence), socioeconomic measure type (e.g., income, via direct report or data source linking), data years, and geographic coverage. Qualifying data sources were reviewed by 2 authors independently and were analyzed by author agreement.

RESULTS

A total of 16 data sources were identified that provide an opportunity to study the longitudinal socioeconomic impact of violence at the individual level (Table 2^{19–34}). Adverse childhood experiences, intimate partner violence, and sexual violence were the most common

Table 1. Data Source Search

	Dat	Data sources			
Search term	Data.gov	ICPSR	FSRDC	analyzed, <i>n</i>	
Interpersonal violence ^{a,b}					
Adverse childhood experiences	54	9	167	10	
Bullying	42	56	167	3	
Child abuse and neglect	55	35	167	9	
Community violence	146	10	167	6	
Elder abuse	41	21	167	2	
Intimate partner violence	113	33	167	10	
Sexual violence	123	31	167	10	
Youth violence	82	32	167	2	
Socioeconomic status ^c					
Criminal activity	147	50	167	8	
Education	12,094	282	167	14	
Employment	3,276	266	167	12	
Family status	1,853	28	167	14	
Housing	5,367	261	167	8	
Income	2,356		167	14	
Quality of life	of life 1,626		167	4	
Wealth	375	101	167	3	

Note: Searches conducted August 2022. Data.gov and ICPSR considered counts are the number of results returned for each keyword search (row titles in this table). Authors applied Data.gov's sort by relevance function and ended review after the ranked list became no longer relevant for study aims. FSRDC counts are the number of indexed data sources in that research environment at the time of review. Analyzed counts match data source descriptions in Table 2^{19–34}.

^aViolence types that intersect are separately identified. Example: A data source that reported child abuse and neglect exposure is counted in both adverse childhood experiences and child abuse and neglect.

^bData sources retained for analysis based on Centers for Disease Control and Prevention definitions (https://www.cdc.gov/violenceprevention): adverse childhood experiences—physical, emotional, or sexual abuse, or household member substance misuse, incarceration, mental illness, parental divorce, or intimate partner violence³⁵; bullying—any unwanted aggressive behavior(s) by another youth or group of youths, who are not siblings or current dating partners, that involves an observed or perceived power imbalance, and is repeated multiple times or is highly likely to be repeated; child abuse and neglect—any act or series of acts of commission or omission by a parent, caregiver, or another person in custodial role that results in harm, potential harm, or threat of harm to a child; community violence—happens between unrelated individuals, who may or may not know each other, generally outside the home. Examples include assaults or fights among groups and shootings in public places, such as schools and on the streets; elder abuse—act or failure to act that causes or creates a risk of harm to an older adult; Intimate partner violence—abuse or aggression that occurs in a romantic relationship; sexual violence—sexual activity when consent in not obtained or not freely given; youth violence—intentional use of physical force or power to threaten or harm others by young people aged 10–24 years.

^cData sources retained for analysis based on: criminal activity—conduct prohibited by criminal laws; education—highest credential/attainment; employment—having paid work; family status—familial structure (e.g., marital status); housing—one's living circumstances (e.g., renting versus owning); income—money received from paid work, investments; quality of life—measure of health, comfort, and happiness experienced by an individual; wealth—total value of one's assets.

FSRDC, U.S. Census Bureau's Federal Statistical Research Data Center; ICPSR, Inter-university Consortium for Political and Social Research.

analyzable violence measures (Table 1). Income, education, and family status were the most common analyzable socioeconomic measures. Self-reported information on violence victimization and socioeconomic status from longitudinal surveys was the source of information in nearly all (14 of 16) of the analyzed data sources; however, 2 data sources were based on administrative records (e.g., substantiated child maltreatment or criminal justice records) (Table 2). The 2 administrative data sources were unique among the analyzed data sources in terms of being linkable at the record level to external longitudinal data sources reporting socioeconomic measures (Table 2). Nearly all (15 of 16) data sources had national geographic coverage, and most had extensive temporal coverage (the

longest was from 1970 to present, and the shortest was from 2016 to 2018) (Table 2).

DISCUSSION

This study generated an inventory of publicly available representative data sources to classify current opportunities for expanding research evidence on the socioeconomic impact of experiencing interpersonal violence. Past research in this area has faced methodologic limitations that have inhibited our understanding of the causal link between experiencing interpersonal violence and its subsequent outcomes. This study's primary contribution is a comprehensive and concise description of the current

 Table 2. Data Sources Reporting Nonfatal Violence Exposure and Socioeconomic Status

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					Longitudinal socioeconomic measure	
Data source	Data source type	Violence type	Data years	Geography	Source	Туре
Add Health ^{19,a,b}	Survey	ACE, CAN, CV, IPV, SV, YV (S)	1994+	National	Direct report	Criminal activity, education, employment, family status, housing, income, QOL, wealth
Criminal Justice Administrative Records System ^{20,c}	Administrative records	ACE, CAN, IPV, SV (A)	1970+	29 states	Direct report	Criminal activity ^d
System					Data source linking	 ACS (2005+): education, employment, income, housing, family status AHS (1973+): employment, housing, income, criminal activity CPS (1962+): education, employment, income, housing, family status decennial Census (2000+): education, income, housing, family status HPS (2020+): education, employment, family status, housing IPUMS (1,850+): education, employment, income, housing, family status IRS W2 and 1,040 (1969+): income, employment moving to opportunity (1994–2010, 2018): employment, housing, income, education, criminal activity MSIS (2000–2016): income PIH TRA (1995+): income, housing PIH-IC (2000–2016): income PSID (1968+): income, wealth, education, employment, family status SAIPE (1989+): income SIPP (1937–2017): income, employment, education, family status SNAP^e (2004+): income SSA-PHUS (2019+): income SSA-PHUS (2019+): income TANF^e (2004+): income TANF^e (2004+): income TRAC (1994–2014): income TRAC (1994–2014): income, housing unemployment insurance (2009–2017): income, employment WIC^a (2004+): income
Education Longitudinal Study Series ^{22,a,b}	Survey	Bullying, CV, YV	2002-2012	National	Direct report	Education, employment, family status, income
Fragile Families and Child Wellbeing Study ^{23,b}	Survey	ACE, bullying, CAN, CV, IPV, SV	1998+	National	Direct report	Criminal activity, education, employment, family status, income, education wealth, QOL
Head Start Impact Study Series ^{24,a,b}	Survey	ACE, CAN, CV	2002-2008	National	Direct report	Family status, income, housing

Table 2. Data Sources Reporting Nonfatal Violence Exposure and Socioeconomic Status (continued)

					Longitudinal socioeconomic measure	
Data source	Data source type	Violence type	Data years	Geography	Source	Туре
Interpersonal Conflict and Resolution Study ^{25,a,b}	Survey	ACE, CAN, IPV, SV	2016-2018	National	Direct report	Education, employment, family status, housing, income
Marital Instability Over the Life Course/Work and Family Life Study Series ^{26,b}	Survey	IPV	1980-2000	National	Direct report	Education, employment, family status, housing,
Midlife in the U.S. Series ^{21,b}	Survey	ACE, CAN, elder abuse, SV	1995+	National	Direct report	Education, employment, family status, housing, income
Monitoring the Future Panel Data ^{27,b}	Survey	Bullying	1975+	National	Direct report	Criminal activity, education, employment, family status, income
National Child Abuse and Neglect Data System ^{28,a,b}	Administrative records	ACE, CAN, SV	1992+	National	Direct report Data source	Family status, income AFCARS (2000+): family status, income
National comorbidity Survey Series ^{29,b}	Survey	ACE, CAN, IPV, SV	1990-2002	National	linking Direct report	Education, employment, family status, income
National Crime Victimization Survey ^{30,b-c}	Survey	CV, IPV, SV	1973+	National	Data source linking	f
National Survey of Child and Adolescent Well-Being ^{31,a,b}	Survey	ACE, CAN, CY, IPV, SV	1997+	National	Direct report	Criminal activity, education, income
National Survey of Families and Households Series ^{32,b}	Survey	ACE, IPV	1987-2003	National	Direct report	Education, employment, family status, housing, income, QOL, wealth
National Social Life, Health, and Aging Project ^{33,b}	Survey	Elder abuse	2005-2021	National	Direct report	Criminal activity, education, employment, family status, housing, income, QOL
National Youth Survey ^{34,a,b}	Survey	CV, IPV, SV	1976-1987	National	Direct report	Education, employment, income, family status, criminal activity

^aIdentified in Data.gov.

ACE, adverse childhood experience; ACS, American Community Survey; AFCARS, Adoption and Foster Care Analysis and Reporting System; Add Health, National Longitudinal Study of Adolescent Health; AHS, American Housing Survey; CAN, Child abuse and neglect; CBSA, Core base statistical area; CJARS, Criminal Justice Administrative Records System; CPS, Current Population Survey; CV, community violence; FSRDC, Federal Statistical Research Data Centers; ICPSR, Inter-university Consortium for Political and Social Research; IPV, intimate partner violence; IRS, Internal Revenue Service; MSA, Metropolitan Statistical Area; MSIS, Medicaid Statistical Information System; PIH IC, Public Indian Housing Information Center; QDL, quality of life (i.e., formal scale such as the Short Form Health Survey, or SF-36); PIH TRA, Public Indian Housing and Tenant Rental Assistance Longitudinal Information; PSID, the Panel Study of Income Dynamics; SAIPE, Small Area Income and Poverty Estimates; SIPP, Survey of Income and Program Participation; SNAP, Supplemental Nutrition Assistance Program; SSA-MBR, Social Security Administration Master Beneficiary Record; SSA-PHUS, Social Security Administration Payment History Update System; SSI, Supplemental Security Income; SV, sexual violence; TANF, Temporary Assistance for Needy Famililes; T-MSIS, Transformed Medicaid Statistical Information System; TRAC, Tenant Rental Assistance Certification Center; WIC, Special Supplemental Nutrition Assistance Program for Women, Infants and Children; YV, youth violence.

bldentified in ICPSR.

^cIdentified in FSRDC network.

^dArrest, criminal court case filings, terms of incarceration, probation, and parole records.

^eNot all states.

Potential for same as CJARS (data source available in FSRDC but not currently linkable to other networked data sources).

data landscape to investigate a complex and understudied question of critical public health importance. Most opportunities identified here to study the level of socioeconomic impact of violence on an individual were based on selfreported longitudinal survey data. A major benefit of this type of data is that it can capture a wider variety of violence exposure than administrative data sources based on, for example, law enforcement involvement. Another major benefit is that surveys typically include richer measures of various forms of violence than administrative records. This is important for studying the implications of experiencing different types of violence across the life course. However, longitudinal surveys are resource intensive and for sensitive topics such as violence exposure and socioeconomic status, survey respondents' willingness to report and recall bias might reduce the value of the information that is gathered.

This study identified a limited number of administrative data sources that offer applicable analytic opportunities—primarily based on being linkable to other data sources. Recent advancements in data linkage infrastructure, data and network security, and research surrounding methodologies for preventing inadvertent disclosure of personal information have created new opportunities to conduct research using linked administrative records. For example, the FSRDC network facilitates data linkage across disparate data resources through the use of personal identification keys that are generated using probabilistic matching algorithms. These personal identification keys are an anonymized identifier which facilitate data linkage while maintaining individual anonymity.

It should be noted that administrative records of exposure to violence are necessarily a subset of all the violence that occurs, which limits the generalizability of related research findings. Making generalizations to populations based on administrative records carries the risk of perpetuating the biases inherent in the systems that generate these records. Therefore, caution should be taken when considering the external validity of findings from studies using administrative records. However, the major benefit of administrative records as highlighted here is that data linking infrastructure can enable expansive opportunities for longitudinal analysis of victims' and perpetrators' subsequent socioeconomic experiences. It should also be noted that surveys share similar limitations in terms of external validity. For example, a survey that aims to be nationally representative may miss certain hard-to-reach groups of the population. Victims of violence are a notable example of this because the consequences of violence exposure could make these individuals less likely to be represented in surveys that are not specifically designed to measure this group, more susceptible to social desirability bias, and more difficult to measure at multiple points in time.

Limitations

This data inventory addressed only data sources that are publicly available and archived at www.data.gov, ICPSR, or the FSRDC network. The website www.data.gov has been criticized for a non-systematic approach.³⁷ Classification of data sources was based on publicly available data documentation. Some data sources facilitate investigation of household rather than individual socioeconomic outcomes. Authors did not systematically examine data source quality issues, such as data completeness for key measures. For example, the Criminal Justice Administrative Records System had the opportunity for the largest depth (records spanning from 1970 to present) and breadth of socioeconomic status measures (criminal activity, education, employment, income, housing, family status, and wealth), but identification of violence exposure in that data source was based on criminal justice system involvement (arrest, criminal court case filings, terms of incarceration, probation, and parole records). There are also some other aspects of data quality that were not assessed, such as survey participation rates over time, sample generalizability, concerns of accuracy of selfreported measures, changes in measurement over time, representativeness of administrative records, and limitations in data linkage. Because data quality assessment was outside the scope of this data inventory, future researchers wishing to use the data resources identified here will need to evaluate data quality against the specific research questions they plan to answer and methodologies they plan to implement. This study primarily identified opportunities to study socioeconomic outcomes in terms of income, education, and family status, but a wider variety of socioeconomic and quality of life measures would be valuable for public health research and practice.

CONCLUSIONS

Linked administrative data currently appears to offer the most comprehensive opportunities to examine the long-term impact of violence on individuals' livelihoods. Despite the limitations of administrative data to comprehensively capture violence exposure, administrative data—linking infrastructure may provide cost-effective research opportunities to better understand elements of the economic burden of violence and improve the targeting of prevention strategies.

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JP led and MMS, MK, and CP assisted with the study design and interpretation of results. JP analyzed data and drafted the manuscript. MMS, MK, and CP edited the manuscript. All authors approved the final manuscript as submitted.

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CREDIT AUTHOR STATEMENT

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