Intersectional differences in serious violent victimization trajectories across the life course

Daniel C. Semenza a,*, Alexander Testa b, Dylan B. Jackson c

a Department of Sociology, Anthropology, and Criminal Justice, Rutgers University, 405-7 Cooper Street, Camden, NJ 08102, USA
b Department of Criminology & Criminal Justice, University of Texas at San Antonio, 501 W. Cesar E. Chavez Blvd., San Antonio, TX 78207, USA
c Department of Population, Family, and Reproductive Health, Bloomberg School of Public Health, Johns Hopkins University, 615 N. Wolfe Street, Baltimore, MD 21205, USA

* Corresponding author.
E-mail address: Daniel.semenza@rutgers.edu (D.C. Semenza).

https://doi.org/10.1016/j.pmedr.2022.101732
Received 4 November 2021; Received in revised form 14 January 2022; Accepted 6 February 2022
Available online 8 February 2022

ARTICLE INFO

Keywords:
Victimization
Intersectionality
Race
Sex
Violence
Trajectory models

ABSTRACT

There is substantial research regarding how individual demographic factors like race, gender, and class influence violent victimization risk, holding significant implications for short and long-term health outcomes. However, there remains limited insight into how intersectional identities shape victimization trajectories over time. This study draws on five waves of Add Health data to analyze how trajectories of violent victimization differ at the intersection of race/ethnicity and sex from adolescence through middle adulthood in the United States. We estimate longitudinal trajectories among six distinct groups using semi-parametric group-based trajectory models (GBTM). We find that Black men have the highest levels of violent victimization with the lowest likelihood of evading victimization. Black women experience especially high rates of chronic victimization that decreases over time, whereas persistent, low-level victimization is a unique classification among White women. Hispanic women are more likely to experience persistent, low-rate victimization compared to White and Black women. There are significant disparities in violent victimization across the life course among intersectional groups with the greatest burden falling on Black men and women. Future researchers should consider the long-term consequences of victimization trajectories through an intersectional lens.

1. Introduction

Experiences of violent victimization are dynamic across the life course (Macmillan, 2001; Turanovic, 2019). In general, there is a strong relationship between age and the risk of violent victimization such that individuals are most likely to experience violence in childhood and adolescence. However, aided by innovations in trajectory analysis (Nagin, 2005), researchers have uncovered multiple pathways of victimization depending on the type of violence and population in question (DeCamp and Zaykowski, 2015; Oncioiu et al., 2020). For instance, some people experience violence only during a discrete part of the life course like adolescence, while others suffer from chronic victimization or experience no victimization at all. It is critical to understand differences in victimization trajectories because different trajectories have significant consequences for short and long-term mental and physical health, involvement in criminal behavior, and socioeconomic attainment (Semenza et al., 2021; Testa et al., 2022).

As knowledge of victimization trajectories develops, scholars have underscored the need to adopt an intersectional approach that considers how convergent social categories related to age, gender, race, class, and others shape victimization experiences (Armstrong et al., 2018; Cho et al., 2013). As Creek and Dunn (2011) note, one’s social location at the intersection of multiple systems of stratification affects experiences of violence in complex ways. In essence, the lived experience of violence cannot be properly understood by only considering a single social identity. Rather, the realities of violent victimization must be considered within a framework that examines how multiple identities intersect to shape those experiences (Collins, 2017; Creek and Dunn, 2011; Crenshaw, 1990).

Race and gender operate as intersecting systems of power that define and structure exposure to violence (Collins, 1998; 2017). Additionally, hierarchies of class, nationality, sexuality, age, and ability all converge to shape experiences of violence in everyday life. Co-occurring experiences of racism, sexism, and classism combine to shape the risk of violence throughout an individual’s life. Furthermore, intersecting structural inequalities create disparities in resource availability that...
might leave less privileged groups especially vulnerable to violence, facing barriers to help-seeking in the event of their victimization (Miller, 2008). Similarly, health-enabling resources to contend with the trauma and harmful health ramifications of victimization are unevenly distributed among intersectionally disadvantaged groups (Tung et al., 2018).

Foundational research on intersectionality and violence initially focused on violent victimization among Black women, emphasizing joint systems of institutional racism and misogyny that combine to place Black women at particular risk for violence (Collins and Bilge, 2020; Crenshaw, 1990; Miller, 2008). An enduring lack of resources to protect against violence alongside a dual disadvantage in social identity shapes how Black women are disproportionately exposed to violence throughout their lives. This dynamic also applies to other women of color, such as Hispanic women, as well as other intersectionally disadvantaged groups. For instance, Black boys and men are at distinctively higher risk for violent victimization by private citizens and the police as a result of racist stereotypes that portray them as violent criminals viewed most prominently with fear and suspicion (Anderson, 2011; Berg, 2014; Chiricos et al., 2004). Similarly, Black and Hispanic men living in disadvantaged neighborhoods are more likely to be exposed to a “code of the streets,” a set of rules that govern interpersonal public behavior including the use of violence (Anderson, 2000). The alienation and isolation experienced by men of color in the U.S. is a product of intersecting racial stereotypes, barriers to conventional success in the face of severe structural disadvantage, and hypermasculine expectations that shapes violence exposure across the life course. Greater intersectional disadvantage is likely to influence trajectories of violent victimization, especially among people of color, since violence is a more persistent and enduring threat among these groups.

There has been limited empirical work to examine how intersectional categories influence trajectories of victimization. This is a critical omission since research to date has focused on how individual social identities related to race/ethnicity and gender shape victimization over time. For instance, in a sample of 624 sixth graders, Black students were more likely to be in high-victimization/high-perpetration dating violence trajectories through 12th grade than their White counterparts (Orpinas et al., 2012). In another study using data from the Offending, Crime, and Justice Survey (OCJS), DeCamp and Zaykowsk (2015) found that women were more likely than men to be victims of violence as young adults, yet less likely to be childhood-limited or chronic victims of violence. Since individual demographic characteristics (e.g. being Black, being a women) heighten the risk of violent victimization, the convergence of multiple disadvantages are likely to further shape experiences of violence over time.

A handful of short-term and cross-sectional studies have examined intersectional risks for violent victimization (Johns et al., 2020; Whitfield et al., 2021). However, most studies that consider intersectional identities have focused on intimate partner or sexual violence rather than broader contexts of victimization related to serious street violence (Goncalves and Matos, 2020; Thaller and Gimino, 2017). For instance, Goncalves and Matos (2020) found that a combination of social, cultural, and ethnic factors shape victimization experiences among immigrant women. Specifically, Black immigrant women with low socioeconomic status were found to be at particularly high risk for violent victimization. Similarly, research using data from the National Crime Victimization Survey demonstrates that victimization among women varies substantially by racial and ethnic groups with Black women at particular risk for serious injury and assault with a weapon (Dugan and Apel, 2003). On the other hand, Whitfield and colleagues (2021) found that intersectional identities are not significantly associated with intimate partner violence (IPV) outcomes among LGBT college students, necessitating continued research on intersectionality and violence exposure. No research to our knowledge has considered how intersecting social identities influence serious violent victimization across multiple stages of the life course.

The current study extends the extant literature by analyzing how trajectories of serious violent victimization from adolescence through middle adulthood differ at the intersection of race/ethnicity and sex. This analysis is critical given that exposure to serious violence has long-lasting ramifications for well-being and certain groups with higher risk for violent victimization over time may disproportionately suffer from poorer health outcomes (Semenza et al., 2021; Testa et al., 2022; Turanovic, 2019). Relatively, a clearer understanding of the specific populations at greatest risk for violence at different stages of the life course can inform targeted allocation of victim assistance services and violence prevention resources. Drawing on a national and longitudinal sample, we examine victimization trajectories among Black, Hispanic, and White men and women to consider the similarities and differences in experiences of violent victimization over time.

2. Data and methods

The data for the current study are from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Add Health is a longitudinal sample of adolescents enrolled in grades 7–12 in the United States during the 1994–1995 academic year. A total of five interviews have been conducted in the Add Health Study: Wave I (1994–1995; ages 12–19), Wave II (1995–1996; ages 13–20), Wave III (2001; ages 18–26), Wave IV (2008–2009; ages 24–32), and Wave V (2016–2018; ages 33–43), making Add Health the largest available longitudinal survey of adolescents. The final sample for the present study (N = 5,481) includes Black, White, and Hispanic respondents who participated in all five waves of the Add Health study, had valid survey weights, and reported information on violent victimization at each wave (see the Appendix for further discussion of the sampling technique). Additional information on the Add Health study and design is provided in Harris and colleagues (2019). The use of Add Health data was deemed exempt by the University of Texas at San Antonio Institutional Review Board.

Serious violent victimization is a count of the number of self-reported violent victimization experiences reported in the 12 months prior to each interview. At each wave, respondents were asked whether in the past 12 months they experienced each of the following: (a) had a knife or gun pulled on them, (b) were jumped/beaten up, (c) were stabbed or shot (0 = no, 1 = yes). Following the procedure in prior research, the three items were summed into a scale ranging from 0 to 3, which represents the variety of violent victimization experiences at each wave (Kuhl et al., 2012; Semenza et al., 2021; Testa et al., 2022; Turanovic, 2019). Please see the Appendix for a discussion of the reliability of all victimization measures.

Race/ethnicity is based on a question asking respondents, “What is your race?”. Responses included: White, Black or African American, American Indian or Native American, Asian or Pacific Islander, or other. Ethnicity is based on a separate question asking, “Are you of Hispanic or Latino origin?” (yes or no). Consistent with the recommendations from Add Health researchers on the best way to compute race, a respondent was given a designation of Hispanic and eliminated from any other race category that was marked when a respondent indicated Hispanic or Latino origin. In cases where a respondent answered more than one category in the race variable, if the respondent marked “Black or African American” and any other race, they were designated as Black or African American and eliminated from the other marked categories.1 Respondents who marked Asian, Native American, or other were not analyzed in the current study because of small sample size. Accordingly, respondents were classified as (0) non-Hispanic White, (1) non-Hispanic Black, or (2) Hispanic. Sex is based on a question asking, “What sex were you assigned at birth on your original birth certificate?” Responses include (0) male or (1) female.

1 Guidance on constructing the race variable in Add Health can be found here: https://addhealth.cpc.unc.edu/documentation/frequently-asked-questions/
3. Analytic strategy

We estimated violent victimization trajectories using semi-parametric group-based trajectory models (GBTM). GBTM is a statistical procedure that summarizes patterns of data over time by classifying observations into a finite number of groups comprised of individuals who display similar patterns across a particular measure over time (Nagin, 2005). We used GBTM to classify individuals with similar patterns of violent victimization, stratified by race/ethnicity and sex, and then assigned those observations to a mutually exclusive group. We estimated victimization trajectories in Stata 16.1 using the “traj” package (Jones and Nagin, 2013). Since violent victimization is represented as a count-based dependent variable with a high rate of zero values (i.e., no victimization) and a positive skew, we estimated all models using a zero-inflated Poisson model.

We selected the number of groups for each race/ethnicity-sex intersectional trajectory group by beginning with a two-group model and adding groups until the addition of another group no longer improved model fit according to the Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC). After identifying the optimal number of trajectory groups, we refined the model by altering the functional forms of the group (i.e., zero-order, linear, quadratic, and cubic) to establish the best fitting model. Ultimately, we selected the final trajectory models based on an evaluation of statistical indicators (e.g., BIC and AIC) and practical considerations including parsimony and having adequate sample size (>5%) in each trajectory group (Nagin, 2005). See the Appendix for a summary of model fit statistics.

4. Results

Table 1 summarizes the average level of violent victimization for all six intersectional groups (Black men, Black women, White men, White women, Hispanic men, and Hispanic women) across the five waves of study. Victimization is generally highest among all groups at Wave I when respondents were 12–19 years old. Black and Hispanic men have the highest rate of victimization across all five waves, followed by White men, Hispanic women, Black women, and White women. However, even at Wave V when victimization is lowest across all groups (ages 33–43), Black men have an average level of victimization more than two times higher than their White and Hispanic male counterparts, and more than five times higher than White women. The average level of victimization consistently decreases as men get older, but Black, Hispanic, and White women all experience an increase in average victimization at Wave IV (ages 24–32).

Fig. 1 illustrates the results of the GBTM analysis for the six intersectional groups alongside one another. Black and White men, as well as Black women, were categorized by four distinct victimization trajectories while White women, Hispanic men, and Hispanic women were grouped into three trajectories. Black and White men experience qualitatively similar types of trajectories from adolescence through adulthood, yet the percentage of those grouped into each trajectory are notably different. Although the majority of White men experience no victimization (52%), only about 28% of Black men fall into this category. Similarly, about 22% of Black men are exposed intermittently to serious violent victimization with a peak in their late twenties whereas roughly 14% of White men belong to this group. Both groups of men have a significant number of adolescent-limited victims, although more Black men fall into this category than White men (35% vs. 29%, respectively). Finally, more than two times the number of Black men than their White counterparts experience chronic victimization that decreases over the life course but does not fall to zero (12% vs. 5%).

Black women are also categorized by four different trajectories of victimization, yet the composition of the groups is quite different than their Black male counterparts. Although the majority (59%) of Black women do not experience serious violent victimization, about 11% undergo intermittent victimization with a significant peak in their mid-late twenties during young adulthood (Wave IV). No other group, male or female, experiences this kind of sharp uptick in violence at this point in the life course. A significant proportion (23%) of Black women experience chronic victimization that decreases over time but does not fall to zero.

Violent victimization among White women is categorized by three distinct trajectories. White women have the lowest average rate of victimization across all time periods and a large majority do not experience any kind of violent victimization (83%). However, about 7% of White women experience victimization in adolescence that falls to zero by their early twenties. Among White women, there is a “Persistent Low-Rate” trajectory characterized by stable victimization across all time periods. This trajectory is most similar to the “Chronic Decreasing” pathway among the other three intersectional groups yet is distinctive in that it does not lessen as individuals age.

Among Hispanic men, most respondents are characterized by no victimization across all waves (57%). The next most common category is an adolescent-limited group that begins with a high rate of victimization in adolescence, but quickly declines as respondents reach young adulthood (27%). Finally, there is a persistent low-rate trajectory defined as low victimization that steadily declines as a respondent ages, but remains above zero even into middle adulthood (6%). Hispanic women follow a somewhat similar trajectory pattern. Again, most report no victimization over time (63%). The second most common group is an adolescent-limited group with high victimization in adolescence that rapidly declines to zero by adulthood (21%). The shape of the persistent low-rate group however is somewhat flatter compared to Hispanic men, indicating that approximately 16% of women experience a low-rate of victimization over time that only begins to decline slightly in middle adulthood.

5. Discussion

There is ample evidence for racial and sex-based disparities in violent victimization (Berg, 2014; Lauritsen and Heimer, 2008). These disparities have persisted across several decades with little evidence of trends shifting any time soon (Lauritsen et al., 2018). Even so, extant work has yet to fully examine how identities at the intersection of race/ethnicity and sex shape victimization trajectories across the life course. The findings of the current study suggest that Black men, in particular, have the highest levels of victimization from adolescence through middle adulthood, with a significant portion of them falling into the peak in their late twenties.
intermittent and chronic groups (especially relative to White men). Black men are also the least likely to evade victimization at any of the observed stages of the life course while Hispanic men are most likely to have no violent victimization experiences (among males). Black women have the highest rate of chronic decreasing victimization whereas White women have a unique persistent low-rate group, suggesting that they are generally more insulated from victimization across the life course than other groups. Hispanic women have a comparable share of individuals in the adolescent-limited victimization trajectory to Black women but have the highest rate of persistent victimization among all groups besides Black men.

Overall, the findings point to elevated risk of chronic victimization across the life course among Black men and women, with relatively few White men or women belonging to the more violent trajectories. Hispanic men are least likely to be victimized of all three male racial/ethnic groups, whereas the rate of no victimization among Hispanic women

Fig. 1. Violent victimization trajectories by intersectional groups.
falls between that of Black and White women. Our results highlight the reality that substantial disparities in the burden of victimization persist among intersectional groups (Crenshaw, 1990). The findings build upon a large and growing literature on how Black individuals, in particular, are disproportionately exposed to violence in their communities and, as a result, bear the greatest harms to opportunity and well-being over time (Armstrong et al., 2018; Collins, 2017; Semenza et al., 2021).

Recently, Woods-Jaeger and colleagues (2019) reviewed suggestions directly from Black youth about how certain shifts in policies and practices can protect against inequitable exposures to community violence. Their proposals entailed a proactive response from community sectors including schools, law enforcement, mental health professionals, and churches. They recommended efforts to mitigate structural racism and discrimination, promote increased access to mental health resources in the community, and hold police and law enforcement accountable when they contribute to (rather than prevent) violence against members of the community. A broad team of experts similarly concur that a multifaceted, community-based strategy that extends beyond the arena of law enforcement is needed to reduce disparities in violent victimization (John Jay College Research Advisory Group, 2020). Beyond addressing violence exposure within communities of color, continued efforts are needed to reduce racial disparities in the criminal justice system. Men and women of color, especially Black individuals, are disproportionately exposed to the criminal justice system, which increases the risk for violent victimization (Edalati and Nicholls, 2019; Timchenko et al., 2020) and likely contributes to the long-term, intersectional disparities in violence exposure found here.

Our results suggest that a non-negligible subset of Black Americans continue to be subjected to serious violence well into adulthood, whereas White Americans are largely insulated from those exposures. Hispanic men and women have a lower risk of overall victimization than their Black counterparts, but arguably suffer from more persistent trajectories of violence. The cruel irony is that the health-enabling resources that can mitigate the trauma of repeated and chronic violent victimization—such as counseling and medical care—are in short supply and/or are underutilized in the communities most affected by violence (Ceasar et al., 2020; Tung et al., 2018). Proactive investment in communities and infrastructure that promotes health to prevent violent crime and victimization may be more productive than merely reacting to the health challenges that often emanate from repeated violence exposure (Jackson and Vaughn, 2018).

Despite the strengths of the current study, it is not without its limitations. First, we were unable to capture individuals who may not identify as male/female but instead identify as non-binary or transgender. The analysis also does not account for sexual identity and the ways that its intersections with race might shape victimization trajectories over the life course. Evidence suggest that these social identities also shape exposure to violence (Espelage et al., 2018; Myers et al., 2020). Future research should seek to expand upon our findings and broaden the intersectional approach to studying victimization trajectories.

Second, we examine trajectories of serious violent victimization such as being threatened with a weapon and getting shot or stabbed. Trajectories across groups may differ for less severe forms of violence (e.g., bullying, simple assault) or context-specific types of victimization such as intimate partner violence (IPV). We focus on serious violent victimization here because the three variables we employed are consistently measured at all five waves of the Add Health study. Other forms of victimization related to IPV or child abuse are only measured at certain waves (e.g. Waves 3 and 4), which would not allow for a consistent trajectory analysis. As such, it will be important for future researchers to replicate the results here for other forms of violence where feasible. Studies that use a broader range of victimization items, in addition to serious violent victimization, may also be able to assess broader heterogeneity in specific types of victimization patterns across intersections of race/ethnicity and sex.

Despite these limitations, our findings reveal important differences in both the type and composition of victimization trajectories across six intersectional groups (i.e., Black men, Black women, Hispanic men, Hispanic women, White men, and White women). Steps should be taken to ensure that groups most vulnerable to victimization are able to access and leverage community and personal health-promoting resources to improve their safety and well-being throughout critical stages of the life course.

6. Ethics approval and consent to participate
Not applicable.

7. Consent for publication
Not applicable.

8. Availability of data and materials
The datasets generated and analyzed during the current study are available in the Add Health data repository: https://addhealth.cpc.unc.edu/data/.

Funding
The authors declare that they had no funding for the present study.

CRediT authorship contribution statement
Daniel C. Semenza: Conceptualization, Writing – original draft, Writing – review & editing, Supervision. Alexander Testa: Methodology, Writing – original draft, Formal analysis, Data curation, Visualization. Dylan B. Jackson: Conceptualization, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements
Not applicable.

Appendix A. Supplementary data
Supplementary data to this article can be found online at https://doi.org/10.1016/j.pmedr.2022.101732.

References
Anderson, E., 2000. Code of the Street: Decency, Violence, and the Moral Life of the Inner City. WW Norton & Company, New York, NY.
Anderson, E., 2011. Against the Wall: Poor, Young, Black, and Male. University of Pennsylvania Press, Philadelphia, PA.
Armstrong, E.A., Gleckman-Krut, M., Johnson, L., 2018. Silence, Power, and Inequality: An Intersectional Approach to Sexual Violence. Annual Review of Sociology 44 (1), 99–122.
Berg, M.T., 2014. Accounting for Racial Disparities in the Nature of Violent Victimization. J. Quant. Criminal. Stat. (4), 629–650.
Ceasar, J.N., Ayers, C., Andrews, M.R., Claudel, S.E., Tamura, K., Das, S., de Lemos, J., Neeland, I.J., Powell-Wiley, T.M., Orense, J.F., 2020. Unfavorable Perceived Neighborhood Environment Associates with Less Routine Healthcare Utilization: Data from the Dallas Heart Study. J. Prevent. Cardiol. 23, e0030041. https://doi.org/10.1177/2081258220932161.
D.C. Semenza et al. Preventive Medicine Reports 26 (2022) 101732
5

Not applicable.

Neeland, I.J., Powell-Wiley, T.M., Orueta, J.F., 2020. Unfavorable Perceived Neighborhood Environment Associates with Less Routine Healthcare Utilization: Data from the Dallas Heart Study. J. Prevent. Cardiol. 23, e0030041. https://doi.org/10.1177/2081258220932161.
