

A Longitudinal Analysis of Sexual Assault Incidents by Race/Ethnicity

Wesley G. Jennings, Ph.D

Chair & Professor of Legal Studies

School of Applied Sciences Department of Legal Studies The University of Mississippi

Ráhael A. Powers, Ph.D

Associate Professor & Graduate Director

Department of Criminology University of South Florida

Stephen A. Bishopp, Ph.D

Sergeant of Police

Dallas Police Department

Corresponding Author:

Wesley G. Jennings, Ph.D

Chair & Professor of Legal Studies

School of Applied Sciences Department of Legal Studies The University of Mississippi

Email: wgj@olemiss.edu

Abstract

Recent evidence has suggested that sexual assault trends are relatively stable and flat. However, whether or not this trend is still observed once the data is disaggregated by race/ethnic subgroups has been largely underexplored. As such, the current study provides a descriptive analysis of sexual assault incident data from a large metropolitan city in a large Southwestern state in the United States from 2007-2017. Results indicate that race/ethnicity-disaggregated trends in the number of sexual assault incidents appear to be increasing in recent years, and this increase is more pronounced for sexual assault incidents with White and African American victims. Additional analyses revealed some interesting victim and incident characteristics associated with these race/ethnicity-disaggregated incidents as well. Study limitations and directions for future research are also discussed.

Key Words

Sexual Assault, Race, Ethnicity, Victimization

* <http://dx.doi.org/10.36889/IJCJ.2019.12.1.41>

INTRODUCTION

Past research has suggested that as many as one in five women in the United States will be victims of sexual assault (rape) in their lifetimes (Black et al., 2011; Fisher et al., 2000; Koss et al., 1987; Tjaden & Thoennes, 2000; Tjaden & Thoennes, 2006). Furthermore, prevalence estimates have been as high as 46.5% of lesbians, 74.9% of bisexual women, and 43.3% of heterosexual women reporting sexual violence other than rape in their lifetimes (Brieding et al., 2014). These estimates are even more alarming considering that sexual assault (rape) is one of the most under-reported crimes, with evidence suggesting that greater than 60% of sexual assaults are not reported to the police (Rennison, 2002). In addition, extant research has frequently documented racial/ethnic minorities as being at an increased risk for being victims of violence (Truman & Morgan, 2016), and this disproportionately higher risk has been documented when comparing African Americans to Whites (Truman & Morgan, 2016) and when comparing Hispanics to Whites (Truman & Langton, 2015).

When considering sexual assault trend data, national data as reported by the Bureau of Justice Statistics (2015), indicated that the US rates of sexual assault have not experienced a significant change from 2006-2015, and reporting rates of sexual assault were largely the same across this same time period. With regard to sexual assault incident and victim characteristics, Sinozich and Langton (2014) have reported that the highest rates of rape and sexual assault are concentrated among females between the ages of 18-24. And, the risk for this particular age group extends to both college students and non-students, and was observed over time as well (1995-2013). Additional analyses provided evidence of variation in the rate of rape and sexual assault against females between the ages of 18-24 by race/ethnicity with higher rates being observed for Whites, followed by African Americans, and Hispanics. Finally, salient sexual assault incident characteristics have been identified in the literature as well such as the documentation of nearly two-thirds of the rape and sexual assault incidents having been reported as having occurred at night (between 6pm-6am) (Sinozich & Langton, 2014).

Current Study

Acknowledging the descriptive trends in sexual assault incidents in the US in recent decades, what has been underexplored in the literature is whether or not this aggregate trend in the sexual assault rates in recent times necessarily applies once subgroup trends (such as race/ethnicity) are examined. Furthermore, largely absent from the sexual assault trend literature is whether or not certain victim and/or incident characteristics that have been identified as being relevant in aggregate trends differ when comparing sexual assault trends disaggregated by race/ethnicity. As such, the current study seeks to contribute to these gaps in the extant research through a longitudinal analysis of over ten years of sexual assault incident data that occurred in a large metropolitan city located in a large state in the Southwest US.

METHODS

Data

The data represent all officially recorded Uniform Crime Report (UCR) Part 1 sexual assault incidents from a large Metropolitan city located in a large state in the Southwest US that occurred during 2007-2017. In addition, only incidents with female victims, aged 18 and older are included in the data.

Variables

There are a number of victim and incident characteristics captured in the data that are used for analysis in the current study. Specifically, victim characteristics include: *victim age* (measured continuously) and *victim race/ethnicity* (coded as White, African American, or Hispanic). Incident characteristics include: *year of the incident* (measured continuously as 2007-2017), *month of the incident* (measured continuously as January/month 1 through December/month 12), *summer month incident* (coded dichotomously as having occurred in May, June, July, or August=1 or having occurred in September-April=0), *day of the week of the incident* (measured continuously as Monday/Day 1 through Sunday/Day 7), *weekend incident* (coded dichotomously as having occurred on either Friday, Saturday, or Sunday=1 or having occurred on a weekday=0), and

time of the day of the incident (coded categorically as having occurred during 6pm-12am=1, 12am-6am=2, 6am-12pm=3, 12pm-6pm=4).

Analytic Strategy

The analysis proceeds in several stages. In Stage 1, descriptive statistics are reported for the sexual assault incidents from 2007-2017. Stage 2 presents the trends in sexual assault incidents from 2007-2017 in the aggregate and disaggregated by race/ethnicity. Next, bivariate correlations are reported to examine the association between time and the number of sexual assault incidents overall and by race/ethnicity. The final stage of the analysis involves a one-way analysis-of-variance (ANOVA) and a chi-square analysis to investigate race/ethnicity differences in sexual assault incident characteristics.

RESULTS

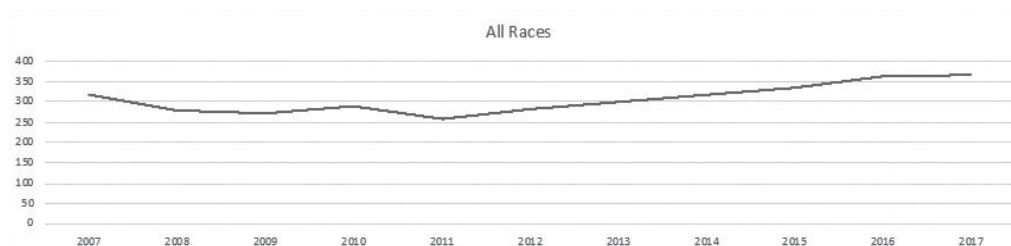
Table 1 provides the descriptive statistics. Specifically, the majority of the sexual assault victims are African American (42.85%), followed by White (31.12%), and Hispanic (26.03%). On average, the sexual assault victims were 29.99 years of age (SD= 10.83) with a range of age 18 to age 93. The sexual assault incidents were relatively evenly distributed over time, ranging from a low of 7.8% of the incidents occurring in 2011 to a high of 10.4% of the incidents occurring in 2017. The majority of the sexual assault incidents occurred during May (10.4%), and proportionally more of the sexual assault incidents occurred during the summer months in general (38.2%). In addition, the majority of the sexual assault incidents occurred on the weekend (49.2%). Finally, a majority of the sexual assault incidents occurred between 12am-6am (32.4%).

Table 1. Sample Descriptives for Sexual Assault Incidents, 2007-2017.

Variables	Mean (SD) or %
Victim Race	
White	31.12%
African American	42.85%
Hispanic	26.03%
Victim Age	29.99 (10.83)
Year of Incident	
2007	9.7%
2008	8.5%
2009	8.3%
2010	8.8%
2011	7.8%
2012	8.5%
2013	9.1%
2014	9.1%
2015	9.5%
2016	10.3%
2017	10.4%
Month of Incident	
January	7.8%
February	6.9%
March	7.7%
April	7.9%
May	10.4%
June	9.1%
July	8.8%
August	9.9%
September	8.9%
October	8.4%
November	7.4%
December	6.9%
Summer Month Incident (May – August)	38.2%
Day of Week of Incident	
Monday	14.3%
Tuesday	12.8%
Wednesday	12.0%
Thursday	11.7%
Friday	14.1%
Saturday	16.1%
Sunday	19.0%
Weekend Incident (Friday – Sunday)	49.2%
Time of Day of Incident	
6pm-12am	29.3%
12am-6am	32.4%
6am-12pm	18.0%
12pm-6pm	20.3%

Figure 1 graphically displays the number of sexual assault incidents by year (2007-2017) for all race/ethnicities (population-adjusted rates reported below Figure 1). As can be seen, there is a fair amount of stability in the trend, with slightly more than 300 sexual assault incidents occurring in 2007, followed by a small decline to approximately 250 sexual assault incidents in 2011, before returning to a gradual upward trend to over 300 sexual assault incidents annually from 2014-2017.

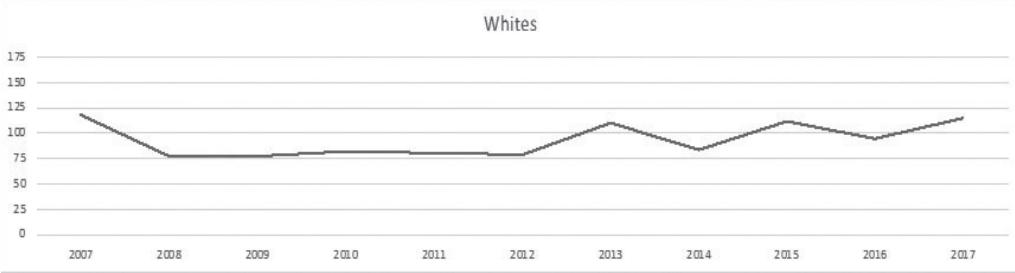
Figure 1. Number of Total Sexual Assault Incidents by Year for Victims of Any Race/Ethnicity, 2007-2017.



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.74 – 3.56 per 100,000 city residents ($M=2.05$; $SD=0.51$).

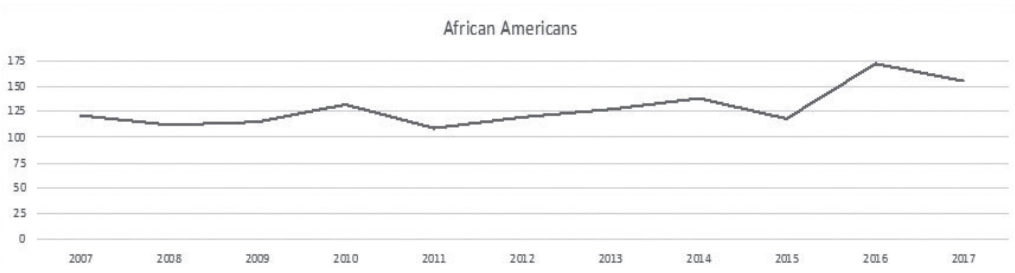
Figures 2-4 display the victim race/ethnicity-disaggregated number of sexual assault incidents by year (2007-2017) (population-adjusted rates reported below Figures 2-4). For White victims (Figure 2), roughly 120 sexual assault incidents occurred in 2007, followed by a sharp decline to approximately 80 sexual assault incidents occurring annually from 2008-2012. Following 2012, the number of sexual assault incidents occurring annually mostly increased. Comparatively, the trends in the number of sexual assault incidents with African American victims followed a similar trend as White victims, with roughly 125 sexual assault incidents occurring in 2007, followed by a fairly small decline, before gradually increasing and peaking at nearly 175 sexual assault incidents being reported in 2016. Finally, the trend data for Hispanic victims showed evidence of a small decline in the number of sexual assault incidents after 2007, with a low of approximately 60 sexual assault incidents occurring in 2011 and 2013, but an increase was observed after 2013 with a peak of nearly 100 sexual assault incidents occurring in 2015.

Figure 2. Number of Total Sexual Assault Incidents by Year for White Victims, 2007-2017.



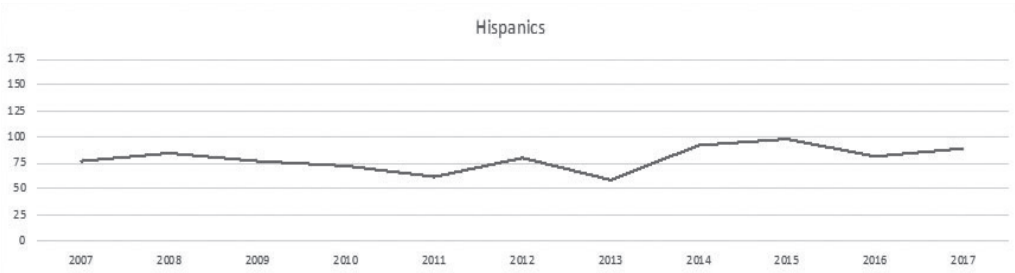
Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.16 – 1.44 per 100,000 city residents (M=0.63; SD=0.25).

Figure 3. Number of Total Sexual Assault Incidents by Year for African American Victims, 2007-2017.



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.24 – 1.56 per 100,000 city residents (M=0.86; SD=0.28).

Figure 4. Number of Total Sexual Assault Incidents by Year for Hispanic Victims, 2007-2017.



Note. Trends in sexual assault frequencies are reported. Population-adjusted rates range from 0.08 – 1.19 per 100,000 city residents (M=0.53; SD=0.23).

Table 2 provides the bivariate correlations between time (in months, 1-132 months representing 2007-2017) and the number of sexual assault incidents occurring

by month. Not surprisingly given the trends in sexual assault incidents described above, all of the correlations were positive, i.e., as time increased (more recent months/years) the number of sexual assault incidents increased. Regarding strength, the correlations between time and the monthly number of sexual assault incidents were moderately correlated for victims of any race/ethnicity ($r = 0.31, p < .05$) and for African American victims ($r = 0.30, p < .05$), whereas the correlation was weak for White victims ($r = 0.15, p < .05$). Also, the monthly number of sexual assault incidents for White victims was positively and significantly correlated with the monthly number of sexual assault incidents for African American victims ($r = 0.26, p < .05$).

Table 2. Bivariate Correlations: Sexual Assault Incidents by Time and Race/Ethnicity, 2007-2017.

	Time (in Months)	White Victims	African American Victims	Hispanic Victims
White Victims	0.15*	-		
African American Victims	0.30*	0.26*	-	
Hispanic Victims	0.10	0.07	0.13	-
Victims of Any Race/Ethnicity	0.31*	0.61*	0.72*	0.55*

* $p < .05$ (one-tailed)

The results from the ANOVA are displayed in Table 3. As illustrated, there were statistically significant racial/ethnic mean differences ($p < .05$) observed for victim and incident characteristics. For instance, White victims were older on average ($M = 31.29, SD = 11.21$), followed by African American victims ($M = 30.08; SD = 11.14$) and Hispanic victims ($M = 28.18; SD = 9.43$). Sexual assault incidents also, on average, occurred later in the year for White victims ($M = 6.63; SD = 3.29$), followed by African American victims ($M = 6.56; SD = 3.32$), and Hispanic victims ($M = 6.29; SD = 2.26$). No significant mean differences were observed when examining the day of the week that the sexual assault incident occurred by race/ethnicity in general, but a chi-square analysis indicated that there was a statistically significant association between race/ethnicity and the incident occurring on a weekend versus on a weekday ($\chi^2 = 6.52, p < .05$). Finally, a chi-square analysis indicated that there was a statistically significant association between victim race and the time of the day incident ($\chi^2 = 18.15, p < .05$), with a greater percentage of incidents with White victims

occurring between 12am-6am (36.6%) compared to incidents with African American (29.8%) and Hispanic (31.7%) victims.

Table 3. ANOVA and Chi-Square Results: Sexual Assault Incident Characteristics by Race/Ethnicity, 2007-2017.

	Victim Age*	Month of Incident*	Summer Month Incident	Day of Week of Incident	Weekend Incident*	Time of Day of Incident (6pm-12am; 12am-6am; 6am-12pm; 12pm-6pm)*
White Victim	31.29 (11.21)	6.63 (3.29)	38.8%	4.27 (2.09)	51.3%	28.4%; 36.6%; 15.8%; 19.2%
African American Victims	30.08 (11.14)	6.56 (3.32)	37.5%	4.15 (2.06)	46.7%	31.0%; 29.8%; 18.0%; 21.2%
Hispanic Victim	28.18 (9.43)	6.29 (2.26)	38.3%	4.30 (2.15)	51.1%	27.5%; 31.7%; 20.6%; 20.2%
Victim of Any Race/Ethnicity	29.99 (10.83)	6.51 (3.30)	38.2%	4.23 (2.09)	49.3%	29.3%; 32.4%; 18.0%; 20.3%

Note. Standard deviations in parentheses.

*p<.05 (one-tailed).

DISCUSSION

The current study sought to provide an examination of race/ethnicity-disaggregated trends in sexual assault incidents over time in general, and to identify whether or not victim and/or incident characteristics distinguished these trends. Several important findings emerged from this effort and are detailed below.

Consistent with the literature (Bureau of Justice Statistics, 2015), the results demonstrated that the aggregate trends in the number of sexual assault incidents were largely stable during the time period examined (2007-2017), although there was a notable increase in the frequency of sexual assault incidents occurring annually in more recent years. In contrast, yet consistent with prior research documenting race/ethnic differences in victimization risk (Truman & Langton, 2015; Truman & Morgan, 2016), once the overall trend in sexual assault incidents was disaggregated by race/ethnicity a different picture emerged. Specifically, larger fluctuations were observed in the annual trends for sexual assault incidents involving White and African American victims. Subsequent bivariate analysis demonstrated statistically significant and positive correlations for time (in months) and the number of sexual assault incidents

overall as well as for sexual assault incidents involving White and African American victims. Or in other words, as time (in months) increased (i.e., more recent months/years) so too did the number of sexual assault incidents involving White and African American victims. Additional analyses involving victim and incident characteristics that have been the focus of prior research (Sinozich & Langton, 2014) revealed significant race/ethnic subgroup differences as, on average, White sexual assault victims were older, and the incidents involving White sexual assault victims, on average, occurred later in the calendar year. Also, a greater percentage of White sexual assault victim incidents occurred between 12am-6am and on the weekends compared to sexual assault incidents involving African American and Hispanic victims.

These results notwithstanding, there are several limitations that are worth noting. First, the data relied on in the current study is drawn from one city, in one state in the US, albeit a large metropolitan city in a large US state. Nevertheless, the degree to which these results would replicate among smaller cities, cities in other states, or in jurisdictions around the globe is open to further inquiry. Second, the sexual assault incident data is official data. It is widely known that sexual assault is one of the most under-reported crimes to the police (Rennison, 2002). Therefore, future research is encouraged to examine whether these results would also apply using self-reported victimization survey data and/or triangulating data across multiple methods and sources when data exist. Third, the current study involved only three racial/ethnic groups for examining subgroup differences in sexual assault incident trends. Future research is encouraged to include a wider variety of other racial/ethnic groups (i.e., Asians, Native Americans, etc.) and/or racial/ethnic subgroups in different geographical, cultural, and international contexts when data are available. Finally, future research should make an effort to apply more sophisticated analytical techniques such as time series analysis or growth curve models to further analyze the temporal and dynamic factors that may influence sexual assault incident trends.

Ultimately, sexual assault is a US and global issue that is associated with a host of adverse consequences for victims such as substance abuse, self-injury, depression, suicide, violence against others, shame, chronic fear, eating disorders, anxiety, dysfunctional relationships, physical injury, and illness (Breiding et al., 2008; Chen et al., 2010; Chrisler & Ferguson, 2006; Ochs et al., 1996; Plichta, 2004; Sheridan & Nash, 2007). It is therefore important that research continues to further dissect the aggregate trends in sexual assault incidents by subgroups, and do so with a lens on the implications that subgroup trends and related incident characteristics have for sexual assault prevention and intervention (Banyard, Moynihan, & Plante, 2007; Coker et

al., 2011; Foshee et al., 1998, 2000, 2005; Gidycz et al., 2001, 2006, 2011; Powers & Leili, 2016; Wolfe et al., 2009).

Finally, these results have implications for urban policy in that it is well known that concentrated disadvantage, a lack of informal social control, low collective efficacy, and other structural factors are related to violence including sexual violence (Capaldi et al, 2012). Implementing place-based policing approaches at crime hot spots have been documented as being a successful initiative to improve collective efficacy and social capital (Weisburd et al., 2015), which would also theoretically lead to a reduction in violence including sexual assault. In addition, the Safe Dates Program (Foshee et al., 1998, 2000, 2005) is one such program that has been rigorously evaluated and consistently demonstrated as being an effective intervention for sexual violence prevention (Jennings et al., 2017). The curriculum for this program focuses on topics such as gender stereotyping, conflict management, and increased services for victims in the community. The larger scale adoption and implementation of this type of evidence-based programming in urban environments would likely yield a noticeable reduction in sexual assault as well.

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