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Urbanicity and Female Jail Incarceration Rates in 1970 and 2018:

The Rise of Rural Female Jail Incarceration

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### **Abstract**

This paper examines the role of county urbanicity as it relates to mean female jail incarceration rates in both the United States and Pennsylvania in the years 1970 and 2018. There are three research questions to be answered in this study. The first is whether mean female jail incarceration rates vary significantly by urbanicity (rural, small/mid, suburban, urban). The second is whether the relationship between female jail incarceration rates and urbanicity changed from 1970 to 2018. The third research question is whether the findings for questions 1 and 2 will be the same for both Pennsylvania and the United States. A one-way ANOVA analysis and descriptive statistics of data retrieved from the Vera Institute of Justice indicated that mean female jail incarceration rates do vary significantly by county, and that the highest mean female jail incarceration rates shifted from urban to rural counties between 1970 and 2018. Ultimately, this analysis indicates that particular attention be paid to criminal justice policies on the local level, especially with regard to rural counties and the lack of resources common there. Limitations on the conclusions and suggestions for future research are discussed.

*Keywords: jail incarceration, female incarceration, urbanicity, feminist criminology, mass incarceration, rural incarceration*

## **Introduction**

The United States' unique phenomenon of mass incarceration has become the focus of advocates and researchers alike in recent decades. Incarcerated women and girls, jail incarceration, and urbanicity are all areas that have been studied by sociologists and criminologists, but not to the extent that prisons and male inmates' experiences have. The intersection of female jail incarceration and urbanicity is a particular area of focus deserving of more attention. Urbanicity can be defined and measured in many ways but generally refers to the categorization of an area by its population size. Female jail incarceration, of course, is the phenomenon of incarcerating women and girls in jails. The consequences of even a brief period of jail incarceration can deeply harm someone's mental and physical health, occupational status, and social connections. The role of gender is an important consideration when examining the consequences of incarceration, given that women's lives are often intimately linked to the lives of their children and families and that their pathways to offending are often tied to social issues such as poverty and substance abuse.

This research will contribute to this topic by determining the relationship between mean female jail incarceration rates, in both Pennsylvania specifically and the United States as a whole, and county urbanicity in the years 1970 and 2018. The goal of this research is to contribute to the understanding of female jail incarceration by examining whether it is correlated with a certain type of county. Identifying patterns in rates of female jail incarceration as it relates to urbanicity, and determining whether this relationship has changed over time, may prove to be helpful in efficiently addressing female jail incarceration on a local level.

## **Literature Review**

The phenomenon of mass incarceration, including its causes and consequences, has been heavily studied in recent decades, but a large portion of this research focuses on prison incarceration (Clear, 2005; Jacobson, 2007; Pfaff, 2017; Clear & Frost, 2013; Hinton, 2016). Jail incarceration differs from prison incarceration in that jails primarily hold people awaiting trial and those serving relatively short sentences, i.e., one year or less (Zeng, 2020). Jail is often where incarceration begins, because it is where people are sent after being arrested and before being convicted, if one cannot post bail or is not offered bail. Most people held in jails have not been convicted of a crime (Subramanian, Delaney, Roberts, et al., 2015; Riley, Kang-Brown, Mulligan, et al., 2017). The lack of attention to jail incarceration is problematic for numerous reasons. No matter the length of time spent in jail, jail incarceration is disruptive to every area of a person's life, including but not limited to occupational, financial, social, and familial roles and obligations. Further, this type of incarceration affects people who have not been convicted of a crime, making any negative consequences of incarceration even less defensible than those affecting people who are serving time for guilty convictions.

Now consider the lives of women as opposed to those of men. Generally, women are primarily tasked with caring for children, in addition to providing financially for themselves and their families (Steffensmeier & Allen, 1996). This is not to say that men do not share responsibility for children, but rather that women more commonly assume that responsibility and are increasingly becoming the sole providers for their households (Melo, 2019). Thus, research on female jail incarceration speaks to not only the number of women entering the criminal justice system and the frequency with which they enter the system, but also to how many women are facing the negative consequences of jail incarceration and how these consequences spillover to

their families and communities. The findings of this research should be contextualized with the understanding of the nature of jail incarceration and its far-reaching, detrimental consequences.

Evaluating data on jail incarceration is essential to understanding who is most often and most negatively affected by jail time, how they are affected, and to which communities they belong. These insights can inform policy decisions and resource distributions in order to uplift affected communities and ameliorate harms caused by mass incarceration. Because jails are locally operated institutions, as opposed to state or federal institutions, county level data and trends are important contributions to the understanding of jail incarceration.

### **Urbanicity**

Focusing on county level jail incarceration can reveal trends by county type, or county urbanicity. Urbanicity affects the jail population, which in turn affects communities in a variety of ways. Trends by urbanicity can shed light on a wide variety of public health and social phenomena, such as disease prevalence, morbidity, unemployment rates, poverty, and incarceration rates, and how these phenomena disproportionately affect certain areas and thus, groups of people. Examining the effects of urbanicity reveals what kinds of areas are most in need of policy change and reform in order to improve community health and quality of life.

Incarceration itself has been linked to urbanicity and determined to have a detrimental effect on health measurements such as mortality and morbidity, particularly in rural and Southern counties (Weidner & Schultz, 2020). As previously stated, when considering the negative outcomes linked to incarceration, it is important to consider the “spillover” effect, in which families and communities are affected by the incarceration of individuals (Kajeepeta, Rutherford, Keyes, et al., 2020). The people facing charges or jail sentences are not the only individuals suffering from incarceration, so the consequences of jail incarceration reach far beyond the

“criminal” in question. Like social and economic effects of incarceration, public health consequences of incarceration affect entire communities.

Most importantly, and perhaps surprisingly, jail incarceration in rural counties has been on the rise in recent years (Riley, R. W., Kang-Brown, Mulligan, et al., 2017). Despite an overall decrease in the national jail incarceration rate (Zeng, 2020), rural incarceration rates (Kang-Brown & Subramanian, 2017) and female jail incarceration rates (Zeng, 2020) have seen increases. This news may conflict with the common assumption that urban areas are most heavily plagued with criminals who cycle in and out of jail, which illustrates the necessity of analyzing more specific demographic and geographic trends in mass incarceration. The present research will build on these recent studies to determine whether the trends of increasing rural jail incarceration and disproportionate jail incarceration apply to women in Pennsylvania.

Many studies have investigated county trends with reference to public health concerns. Many of these studies indicate poorer health outcomes for rural communities, with some showing evidence of poor outcomes specifically for rural Black Americans (Kajeepeta, Rutherford, Keyes, El-Sayed, & Prins, 2020; Probst, Eberth, & Crouch, 2019; Probst, Bellinger, Walsemann, Hardin, & Glover, 2010). Given that incarceration is on the rise in rural communities and that incarceration disproportionately affects Black Americans, these poor health outcomes come as no surprise. Mortality, or pre-mature death, has been positively correlated with jail incarceration rates on a county level (Kajeepeta, Rutherford, Keyes, et al., 2020). Life expectancy tends to be higher for urban residents than rural residents, and this trend has only grown in recent decades (Leider, Meit, McCullough, Resnick, Dekker, Alfonso, & Bishai, 2020; Singh & Siahpush, 2014).

Additionally, researchers have investigated county trends in poverty and unemployment rates. These trends are important for mass incarceration because poverty rates have been repeatedly linked to incarceration rates (Simes, 2018; Prison Policy Initiative & VOCAL-NY, 2020). Unemployment and childhood poverty have both been causally linked to quality of life health-issues at the county-level (Rettenmaier & Wang, 2013). Further, the feminization of poverty is the phenomenon that the prevalence of poverty is growing faster amongst women than men, and this has to do with a variety of factors including structural inequality and increasing numbers of women-run households (Melo, 2019). County-level poverty, and other variables, can significantly predict local jail rates (Riley, R. W., Kang-Brown, Mulligan, Valsalam, Chakraborty, & Henrichson, 2017). Jail is its own punishment for incarcerated individuals, but it also wreaks havoc on community level health and quality of life, illustrating the need for further research on jail incarceration in particular.

Thus, communities marked by incarceration are often also affected by poor health and excessive poverty and, as more men are incarcerated on average than women (Zeng, 2020), women are left to provide for their families without having the structural advantages that men have when it comes to employment and education, often in communities without the means to support them. This burden on women in combination with growing female incarceration rates compounds the stress and responsibility placed on women to be good mothers, homemakers, and employees while at the same time receiving little support. This research aims to shed light on women's experiences with jail incarceration in order to rectify this issue.

### **Feminist Criminology**

Women, and girls, have been a historically understudied population in most fields, including criminal justice and criminology. A movement toward a feminist criminological

perspective has contributed toward our understanding of women's experiences with the criminal justice system, including women's offending patterns, victimization patterns, and pathways into criminal justice system. This shift toward feminist thinking offers many benefits, including further sophistication and nuance in understanding gender relations and eliminating assumptions and stereotypes about women's behavior and experiences (Daly & Chesney Lind, 1988). While insights in these areas are valuable, not enough work has been done to understand female jail incarceration. Given the growing percentage of women being incarcerated (Zeng, 2020), further investigation of female jail incarceration rates is warranted. The current research will build on previous research on women's experiences with the criminal justice system by expanding on female jail incarceration with regard to urbanicity.

Chesney-Lind and Morash argue for a transformative feminist criminology perspective on female criminal offending, one that considers intersectional and global factors in examining the criminal justice system (Chesney-Lind & Morash, 2013). This perspective requires acknowledging and addressing power imbalances between men and women, particularly in the realm of criminal justice. The authors call attention to the history of criminology and the criminal justice system, both of which are marked with ignorance toward and mistreatment of women and girls. For example, sexual behaviors were commonly considered immoral and deserving of interference only when perpetrated by girls, and this perspective fueled the "child-saving" movement of the early years of the juvenile justice system. Today, patriarchal power structures impede women's progress toward economic and social equality in both the professional and personal realms. Furthermore, recent years have seen emphasis on correcting the behavior of juvenile girls, oftentimes labelling and condemning delinquent girls with the term "bad girls" (Belknap, 2007, 102). The male-dominated power structure creates and controls narratives about

women and girls and further dictates the treatment of them, clearly illustrating the need for a new transformative feminist criminological perspective and the value that this perspective will bring to all facets of criminology and criminal justice.

In some sense, the first stage of criminal justice contact is criminal offending. Women's common pathways to offending, or reasons for offending, are different from those of men. Pathways to offending also differ amongst women along age groups and racial identities, illustrating the need for an intersectional perspective to understand the reality of women's offending (Hilsinger & Holsinger, 2007; Heimer, 1995; Richie, 1996). While the present study will not include a racial component, future studies should investigate the differential treatment and experiences of women by race.

A study of 351 jailed, "high-risk" women in a Baltimore jail suggests that pathways may differ by stage of involvement in the criminal justice process and type of crime committed, i.e., jailed and awaiting disposition or convicted of a felony (Simpson, Yahner, & Dugan, 2008). This study built on findings from other researchers' work on women's pathways to offending and how they differ from men's and by race. The work of these researchers highlights the necessity of the present research and other projects like it. Because women's pathways to offending (and women's patterns of offending) differ from men's, their other contacts and experiences with the criminal justice system likely also differ, and these differences should be acknowledged and explored in order to continue improving the United States' understanding and delivery of justice.

Daly's *Street Woman* (1992) posited that the most common pathway to offending for women is for young women to begin prostituting themselves or otherwise hustling to support themselves after leaving home. Alternatively, in this *Street Woman* theory, young women may drop out of school and struggle to support themselves through legitimate employment, owing to

their lack of experience and education, and then engage in illegal ventures or become involved with criminal men. Daly's 1994 study identified four additional pathways to offending including women who had suffered abuse as children, women who had used or sold drugs through familial or romantic partnerships, women who had been in violent relationships, and "other" women (Daly, 1994). These many pathways, of course, are not exclusive to women, but rather they are common for women.

Simpson, Yahner, and Dugan's study ultimately found overlap with Daly's categories in harmed and harming women, drug connected women, and battered women, with some support for street women as well. This study also found that adult-onset offenders have only a few of the risk factors commonly associated with early or adolescent onset offenders, including delinquent friends and sexual abuse. Adult-onset female offenders, rather, tend to have an exposure to violent victimization and a direct link to a criminally involved man (Simpson, Yahner, & Dugan, 2008, 103). Thus, there are many common pathways for women to enter the world of criminal offending and studying different samples only adds to the nuance of this knowledge base. The current research will contribute to the knowledge of women's jail incarceration as it has changed since 1970 and as it varies by county urbanicity.

An important factor in women's offending is prior experiences and exposures, particularly traumatic or abusive ones (Makarios, 2007; Simpson, Yahner, & Dugan, 2008). Child abuse, for example, has been linked to future delinquency in both girls and boys (Makarios, 2007). Female offenders, however, are much more likely to report victimization in childhood than male offenders (Belknap & Holsinger, 1998; Belknap & Holsinger, 2006; Siegel & Williams, 2003).

Sexual abuse in particular has been linked to female offending rather consistently, but that does not mean that every female offender has been sexually abused (Chesney-Lind & Pasko, 2004). One study of 131 female offenders sought to determine what life-course differences exist between female offenders who had experienced sexual abuse and those who had not (McCartan & Gunnison, 2010). This study offered the conclusions that, of the group studied, women with a history of sexual abuse were more likely to “report their household as loving, were more deeply involved in the criminal justice system, had more difficulty staying employed, and were more likely to be involved in abusive relationships” (McCartan & Gunnison, 2010, 1449). These conclusions may indicate that sexual abuse permeates a woman’s perspective on her relationships with others, how others treat her, and thus the kinds of people with whom she associates. Sexual abuse also affects women’s abilities to hold a job and a positive self-image. The combination of these effects may contribute to an accelerated pathway to criminal offending (McCartan & Gunnison, 2010).

In addition to women’s pathways to or reasons for criminal offending, women’s actual offending patterns differ from those of men. Female offending has always been less common on average than male offending (Steffensmeier & Allan, 1996). Interestingly, female and male offenders usually have similar socioeconomic backgrounds and are often driven to crime by economic situations and financial need (Belknap, 2007), but women more often have dependent children and have been subject to more victimization (Steffensmeier & Allan, 1996). This observation highlights, again, the variation in pathways to offending while also identifying common factors in offending such as having a lower socioeconomic status. Our understanding of the factors and experiences that lead women to criminal ventures and eventual contact with the

criminal justice system should inform our treatment of women once they enter the system, which is why it is essential to continue deepening our understanding of women's experiences.

Women's offending is limited by gender constraints, just like women's legitimate employment. These constraints and gendered expectations limit their "participation at the highest levels of criminal enterprise and dictate their behavior in line with norms about what women can and should do" (Britton, Jacobsen, & Howard, 2018, 45). Particularly in communities marked by incarceration, women are left to support households without the means to do so. Even for men, legitimate employment opportunities offer inadequate pay to support a family on one income. For women, who face additional barriers in education and may have less qualifications than men as a result, finding gainful legitimate employment is an impossible challenge. These same issues of gender inequality, norms, and constructs play into illegitimate enterprises as well. Men hold more powerful, higher-earning positions, even in the criminal world. As a result, women are left with very little opportunity to provide for themselves and their children, even when they resort to crime to support themselves.

The current research intersects with current knowledge about the relevance of urbanicity and county level phenomena and knowledge of jailed women's life experiences and criminal justice contact. The insights gained from this research will contribute to the knowledge base regarding women's experiences in the criminal justice system at a local level and the role of county urbanicity in the criminal justice system at a local level. Given existing research on county incarceration trends and the community-level consequences of incarceration, this research is essential to understanding the experiences of women, particularly women who have been in jail, in communities heavily impacted by incarceration. The knowledge base regarding jail incarceration is lacking information specific to women's experiences. This research's focus on

female jail incarceration rates will contribute to filling this gap in the literature. The focus on urbanicity in this research will provide detail as to which kinds of counties are most in need of policy change or other types of reform. Most specifically, the findings of this research will contribute to the understanding of female jail incarceration rates and allow for better adjusting of policy and spending to address female jail incarceration.

## **Methods**

### **Research Questions & Hypotheses**

This research aims to expand the knowledge base regarding women's experiences with the criminal justice system and jail incarceration. The two main questions this research will seek to answer are: (1) Do mean female jail incarceration rates vary significantly by urbanicity (rural, small/mid, suburban, urban) and (2) Does the relationship between female jail incarceration rates and urbanicity change from 1970 to 2018? The third research question asks whether the findings for questions 1 and 2 will be the same for both Pennsylvania and the United States. All three questions will be answered using data on the United States' and Pennsylvania's jail incarceration rates by county in the years 1970 and 2018.

The first question will determine whether there is a statistically significant relationship between a county's urbanicity and its rate of incarcerating women in jail. Depending on the answer to the first question, the second question will investigate whether the relationship between female jail incarceration rate and urbanicity is the same in 1970 and 2018 in terms of both strength and direction. Given the existing literature on current and historical trends in jail incarceration, I hypothesize that (1) there will be a statistically significant difference between average female jail incarceration rates by county in both the U.S. and PA in both 1970 and 2018

and (2) that the significant difference will be consistent but change directions. As noted in the literature review above, rural jail incarceration is on the rise nationally, so the rural average female jail incarceration rates may be higher than urban, suburban, and small/mid average female jail incarceration rates in 2018. Finally, I hypothesize that the findings will be the same for the United States and Pennsylvania, given that both contain a mix of the four urbanicity categories.

### **Data**

The dataset for this research was provided by the Vera Institute of Justice. The dataset was created using multiple sources including the Annual Survey of Jails, Census of Jails, and the Death in Custody Program (Vera Institute of Justice, 2020). This county-level dataset includes many other variables relating to incarceration but only the key variables for this project were pulled. I pulled out the data from the years 1970 and 2018 for both the United States as a whole and Pennsylvania alone. The data from the years 1970 and 2018 on female jail incarceration rates in the U.S. and PA were pulled out and sorted by urbanicity.

### **Variables**

The independent variable in this study is urbanicity because the project seeks to determine urbanicity's effect on female jail incarceration rates. The Vera institute defines urbanicity by drawing on the National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for counties. Instead of using all six original categories, Vera condenses the categories to four: rural, small/mid, suburban, and urban. Rural includes NCHS's micropolitan, including populations between 10,000 and 50,000, and noncore areas, which are defined by the NCHS as nonmetropolitan counties that do not qualify as micropolitan (Ingam & Franco, 2014). Small/mid combines NCHS's small and medium metropolitan areas, which were

classified as metropolitan areas with less than 250,000 and 250,000 to 999,999 inhabitants, respectively. Suburban counties surround urban metropolitan areas. Urban areas include metropolitan areas with at least a million people (Kang-Brown & Subramanian 2017).

Female jail incarceration rate is the dependent variable because it is the variable that should be affected by urbanicity, the independent variable. Female jail incarceration rate is defined by Vera as the number of female residents aged 15 to 64 (the most high-risk age group for incarceration) out of 100,000 in a county being incarcerated in jail. The rate was used rather than the population to account for the different sizes of counties.

Table 1 shows the descriptive statistics for female jail incarceration rates by urbanicity in the U.S. in 1970. The urban counties have the highest mean rate of female jail incarceration at 18.77 per 100,000 female residents aged 15-64 incarcerated. Table 2 shows the descriptive statistics for female jail incarceration rates by urbanicity in the U.S. in 2018. The urban counties no longer have the highest mean female jail incarceration rate. Instead, rural counties have the highest mean female jail incarceration rate at 169.42 per 100,000 female residents aged 15-64 incarcerated. Table 3 shows the descriptive statistics for female jail incarceration rates by urbanicity in PA in 1970. As in the U.S., urban counties have the highest mean rate of female jail incarceration at 11.90 per 100,000 female residents aged 15-64 incarcerated. Table 4 shows the descriptive statistics for female jail incarceration rates by urbanicity in PA in 2018. As in the U.S., the rural counties have the highest mean rate of female jail incarceration at 105.18 per 100,000 female residents aged 15-64 incarcerated.

**Table 1: Descriptive Statistics for Female Jail Incarceration Rates by Urbanicity – 1970**

U.S.

	N	Min	Max	Mean	St. Dev.
Rural	1976	0	240.38	5.68	17.80
Small / mid	730	0	335.38	7.63	18.69
Suburban	368	0	164.4	5.78	13.94
Urban	64	0	73.02	18.77	14.24

**Table 2: Descriptive Statistics for Female Jail Incarceration Rates by Urbanicity – 2018**

U.S.

	N	Min	Max	Mean	St. Dev.
Rural	1976	0	9169.99	169.42	401.19
Small / mid	730	0	1978.07	145.11	155.71
Suburban	368	0	884.37	135.70	141.37
Urban	64	8.59	166.52	77.82	38.71

**Table 3: Descriptive Statistics for Female Jail Incarceration Rates by Urbanicity – 1970 PA**

	N	Min	Max	Mean	St. Dev.
Rural	30	0	8.12	.79	2.11
Small / mid	24	0	10.79	2.26	3.21
Suburban	11	0	8.39	3.21	2.87
Urban	2	4.48	19.32	11.90	10.49

**Table 4: Descriptive Statistics for Female Jail Incarceration Rates by Urbanicity – 2018 PA**

	N	Min	Max	Mean	St. Dev.
Rural	30	0	305.89	105.18	80.43
Small / mid	24	0	246.65	123.84	64.21
Suburban	11	59.86	264.46	128.13	55.66
Urban	2	79.79	91.04	85.42	7.96

There were 49 counties (out of 153,811) with missing data on urbanicity. There were 10,980 counties (out of 153,811) with missing data on female jail incarceration rate. Listwise deletion was used to handle missing data.

### **Analysis**

One-way ANOVA<sup>1</sup> is a statistical analysis that determines whether there is a statistically significant difference between means for more than 2 unrelated groups. This test was appropriate for this research project because it seeks to compare mean female jail incarceration rates for four unrelated groups.

## **Results**

### **Question 1**

The first research question was whether mean female jail incarceration rates vary significantly by urbanicity. The one-way ANOVA analysis of the mean female jail incarceration rates in the United States in 1970 did reveal that there is a statistically significant difference in

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<sup>1</sup> In order for ANOVA to not have a high risk of Type 1 error, the variables must be approximately normally distributed and variances must be similar. Variables are approximately normally distributed and variances are roughly similar. The scope of this project, including restricted access to more advanced statistical analysis software like SPSS, limited my ability to more thoroughly test for violations of these assumptions.

mean female jail incarceration rates between the four urbanicities (rural, small.mid, suburban, and rural) ( $F_{3,2923}=12.578$ ,  $p<.05$ ). Similarly, the one-way ANOVA analysis of mean female jail incarceration rates in the U.S. in 2018 revealed that there is a statistically significant difference in mean female jail incarceration rates between the four urbanicities ( $F_{3,2928}=2.854$ ,  $p<.05$ ). The mean female jail incarceration rates in Pennsylvania in 1970 followed this trend, with the ANOVA revealing that there is a statistically significant difference in mean female jail incarceration rates between the four urbanicities ( $F_{3,63}=9.679$ ,  $p<.05$ ). Surprisingly, the one-way ANOVA analysis of the mean female jail incarceration rates in PA in 2018 showed that there is not a statistically significant difference in mean female jail incarceration rates by county urbanicity ( $F_{3,62}=.559$ ,  $p>.05$ ).

These findings supported three parts of the hypothesis that there would be a statistically significant difference between average female jail incarceration rates by county in both the U.S. and PA in both 1970 and 2018. Support for significant differences in mean female jail incarceration rates was found for the U.S. in 1970 and 2018 and for PA in 1970. The fourth part of the hypothesis, that mean female jail incarceration rates would vary by urbanicity in PA in 2018, was unsupported.

## **Question 2**

The second research question was whether the relationship between mean female jail incarceration rates and urbanicity changed between 1970 and 2018. The analyses of the mean female jail incarceration rates in the U.S. in 1970 and 2018 both showed that the four urbanicity categories had significantly different mean female jail incarceration rates. Thus, the analyses showed that in both 1970 and 2018 a statistically significant relationship between mean female jail incarceration and urbanicity existed. The descriptive statistics for the U.S. in both years,

however, show that urban counties had the highest average rate of incarceration in 1970 while rural counties had the highest average rate of incarceration in 2018. Together, the one-way ANOVA analyses and descriptive statistics then indicate that while the relationship between mean female jail incarceration rates and county urbanicity was present in both years, the urbanicity type with the highest rates of incarceration changed.

The analyses of the mean female jail incarceration rates in PA in 1970 and 2018 showed that there was only a statistically significant relationship between mean female jail incarceration rates and urbanicity in 1970, not in 2018. The descriptive statistics for PA's mean female jail incarceration rates by county urbanicity in 1970 show urban counties as having the highest average rate of female jail incarceration. In 2018 in PA, rural counties had the highest average rate of female jail incarceration.

The hypothesis that the significant difference in mean female jail incarceration rates by urbanicity will be consistent but change directions was supported by the analyses. In the U.S. in both 1970 and 1980, there was a significant difference in mean female jail incarceration rates, but the urbanicity with the highest rates changed from urban to rural, or from most to least populated. While there was only a significant difference in mean female jail incarceration rates in PA in 1970, the highest rates of female jail incarceration changed from urban to rural counties from 1970 to 2018, as in the U.S.

### **Question 3**

The final research question is whether the findings for the first two research questions are the same for both Pennsylvania and the United States. The hypothesis that the findings will be the same for the United States and Pennsylvania was not fully supported. While the descriptive statistics showed the same trend toward rural jail incarceration and away from urban jail

incarceration in 2018 as compared to 1970 in both the U.S. and PA., there were some interesting differences in the data from the United States and Pennsylvania in 1970 and 2018. The U.S. data showed a significant relationship between mean female jail incarceration rates and county urbanicity in both years, but PA data only showed a significant relationship between mean female jail incarceration and county urbanicity in 1970. Thus, there may have been some state-level policies on jail incarceration PA between 1970 and 2018 that differed from those on the national-level, because the U.S. retained the significant relationship between mean female jail incarceration rates and urbanicity while PA did not.

### **Discussion**

The findings from this research indicate that female jail incarceration, on average, is occurring at higher rates in rural counties on a national level. At the state level, within Pennsylvania, rural female jail incarceration rates are also the highest, even though differences in rates by urbanicity did not reach statistical significance. Current research indicates that jail incarceration is on the rise, particularly in rural counties (Kang-Brown & Subramanian, 2017). Additionally, women's jail incarceration has also increased in recent decades (Kajstura, 2019). This present research provides significant statistical analysis to indicate the growth of women's jail incarceration in order to augment current research regarding women's jail experiences. Previous research has looked at rising female jail incarceration and rising rural incarceration. This current research ties both of these areas together. This project also builds on the current knowledge base by looking at women's jail incarceration specifically rather than women's incarceration generally or jail incarceration generally. In light of the recent growth of jail incarceration in rural counties and of women's incarceration generally, this finding is, in itself,

unsurprising (Kang-Brown & Subramanian, 2017; Kajstura, 2019). If jail incarceration is on the rise in rural counties and the rate of women's incarceration is growing, particularly in jails, then it would make sense that mean female jail incarceration rates are higher in rural counties. In this sense, the present research aligns with the current knowledge base regarding female jail incarceration and national urbanicity trends in incarceration.

### **Implications of overall increase in female jail incarceration (1970-2018)**

In order to understand the value of the present research, one must understand the nature and effects of jail incarceration. As discussed in the literature review, incarceration has similar effects on men and women, but the effects on women can have even more severe consequences because of the vulnerability in the status of being female. Jail incarceration can have detrimental effects by interfering with childcare, employment, housing, and mental and physical health. For example, diseases like HIV/AIDS, hepatitis C, tuberculosis, and sexually transmitted infections are all more prevalent among incarcerated populations than the general public (Cloud, 2014). Incarcerated women are at a higher risk for disease than incarcerated men, in part due to histories of sexual victimization, trauma, and substance use (Cloud, 2014). These risk factors have been discussed in the context of pathways to offending in the above literature review, indicating their negative role in both the pathways to involvement with the justice system and the consequences of the eventual involvement. Considering the negative consequences of jail incarceration for women, finding such significant increases in female jail incarceration rates from 1970 to 2018 is alarming.

The effects of a conviction or plea to even a minor crime can also severely affect women's ability to gain employment or have custody of her children. Children of incarcerated parents suffer negative effects as well. The stress of having an incarcerated parent takes a toll on

children and this toll can be seen in lower GPAs, higher BMIs, drug use, and depressive symptoms in children (Gaynes & Krupat, 2018). Additionally, incarcerated people have better outcomes after incarceration when they have been able to maintain connections to family (Gaynes & Krupat, 2018). While jail stays are generally shorter than those in prison, jails are often very restrictive in terms of communicating to family members on the outside, making phone calls more expensive and limiting the type of mail allowed inside (Kajstura, 2019). Thus, it is optimal to minimize parental incarceration time for both the parent's own sake and the sake of the children. As previously discussed, women are often primarily or solely responsible for their children, so minimizing the impact of parental incarceration requires particular attention to female incarceration. If an incarcerated woman is the provider for her household, that household is left with no provider or caregiver for the duration of her incarceration. The need to protect children of incarcerated women only further emphasizes the need to address the present findings which indicate significant increases in female jail incarceration in rural areas.

Given the consequences of incarceration, even relatively brief jail incarceration, the present research and the body of knowledge on the increasing incarceration of women in rural areas is cause for concern. The intersection of the growth rural jails and women's incarceration deserves attention, from both a government spending perspective and an advocacy perspective. Policies regarding women's jail incarceration should be evaluated because of the nation's spending on jail incarceration (The Pew Charitable Trusts, 2021) and disproportionate growth of the proportion of women being incarcerated in jails (Kajstura, 2019). As of the end of 2017, local governments' jail costs had reached a total of \$25 billion (The Pew Charitable Trusts, 2021). This extreme spending could perhaps be justifiable if it resulted in beneficial outcomes, like significantly lower crime rates in the areas with increased spending. However, in a 2017 study,

small localities' jail spending did not correlate to crime levels (The Pew Charitable Trusts, 2017). In the same study, jail spending increased despite drops in both crime and jail admissions. Thus, billions of dollars are being dedicated to jail incarceration regardless of crime levels and jail admissions. Further, this huge increase in jail spending coincides with significant increases in rural female jail incarceration. The current research only further proves the growth of jails in rural counties and its effect on the growth of women's incarceration in these areas, illustrating the need for reform in incarceration policy and spending.

The overall increases in female jail incarceration rates calls for an inspection of potential causes of the increases. What factors are currently contributing to female jail incarceration? In 2019, 231,000 women were incarcerated in the United States (Kajstura, 2019). The plurality of those women (101,000) were held in local jails. The prevalence of jail incarceration for women does not hold true for the general incarcerated population, most of whom are held in state prisons. This difference begs the question as to why women in particular are more often incarcerated in jails. One possible cause is that women often face less serious charges than men. However, according to 2019 data from the Prison Policy Initiative, women held in jails have been convicted of or charged with many types of crime, including violent, property, drug, and public order offenses (Kajstura, 2019). The majority of those women held in local jails (61,000) had not been convicted. It is unlikely that these women are held before trial because they were deemed a flight risk, given that most (80%) women in jails are mothers, a status which gives them clear ties to the area (Kajstura, 2019). It could be the case that these women are held in jail while awaiting trial because they cannot afford to post bail. Given that women generally make less money than men for a variety of reasons, this explanation is a plausible one. Considering the multitude of negative consequences of being held in jail, which affect both the women

themselves and their families, it seems particularly unjust that this proportion of women in jail in pretrial detention.

Keeping in mind the many consequences of jail incarceration to women, their families, and communities, one should consider the findings of the current study once again. This research points out a national trend toward incarcerating women in rural jails at significantly higher rates than any other type of urbanicity. As previously stated, women in jails are facing various types of charges, so in order to reduce the number of women held in jails, policies regarding all types of crime should be addressed. Further, more than half of the women in jails have not yet been convicted on the present charges, so sentencing reform would not benefit these women. In fact, the percentage of people incarcerated in jails who have been convicted has stagnated despite the dramatic increase in jail populations over recent decades (Rabuy & Kopf, 2016). Previous research has found that pre-trial detention in jails has increased five-fold since 1970 (Kang-Brown & Subramanian, 2017). People held in pretrial detention now comprise almost 2/3 of the total jail population (Kang-Brown & Subramanian, 2017). In fact, that same study found that pretrial detention had grown the most in rural counties. The present research findings indicate that reform focused in rural areas could be particularly beneficial, as they have had the highest average female jail incarceration rates in recent years, in addition to having highest increases in general pretrial incarceration rates established in the earlier study (Kang-Brown & Subramanian, 2017).

Another area of concern in jail incarceration is the expanding jail bed market. A 2017 Vera Institute study found that 84% of local jails were holding people for different jurisdiction, like other county jails, state prisons or federal authorities (Kang-Brown & Subramanian, 2017). Over 20% of the total jail population on a given day is being held under a different jurisdiction

(Kang-Brown & Subramanian, 2017). Essentially what this means is that local jails are holding more people than the local jurisdiction has detained. Perhaps this market explains the disconnection between jail admissions and jail spending. This expanding jail bed market may also help explain the distance some jail incarcerated people are from their home communities, which is an especially important complication for women. Given that women are most commonly held in local jails even after conviction (Kajstura, 2019), the expanding jail bed market is relevant to the current issue of female jail incarceration.

### **Implications of Variation by Urbanicity**

The relatively recent increase in female jail incarceration rates alone is troubling. Further, finding significant differences in female jail incarceration by urbanicity indicates a pressing need to address rural female incarceration and the factors that may be increasing it. The shift from higher urban to rural jail incarceration is indicative of social and economic problems unique to rural counties which affect local justice systems. Understanding female jail incarceration's growth as being mainly located in rural counties allows for targeted responses to this growth. To understand the rural jail growth that is particularly harmful for women, one must explore the potential causes for this targeted growth. The Vera Institute published one of the first studies to explore specifically rural incarceration specifically (Kang-Brown & Subramanian, 2017). This study provides some introductory theories as to why rural incarceration is becoming such a problem, but it does not speak to women's experiences with rural jail incarceration. Increases in crime would theoretically lead to an increase in jail incarceration, but rural counties have property and violent crime rates that are three quarters and two thirds, respectively, of those of urban areas (Kang-Brown & Subramanian, 2017). Thus, crime is not the cause of this significant increase.

Little research on rural jail growth exists. As with any local criminal justice system, multiple actors are involved in addressing crime, and by extension, incarceration. These actors include law enforcement officers, judges, prosecutors, jail administrators, and politicians. All of these actors act individually and jointly to have an effect on a local justice system, and local rural jurisdictions will all have different policies on things like arrests, charges, bail, sentencing, and disposition (Kang-Brown & Subramanian, 2017). Further research is needed on current practices in order to enact policies that can address growing jail incarceration, especially female jail incarceration.

While further research on causes of rural jail incarceration is needed, the consequences of high rural jail incarceration are clear. A common problem for rural counties is a lack of resources. Rural counties, by definition, have fewer inhabitants and thus fewer taxpayers. The lack of funding in these counties translates to a lack of criminal justice personnel, pretrial service programs, and diversion programs. The disparity in resources in rural counties often results in slower moving court systems, less ability to assess pretrial risk, more challenging community supervision requirements, and less opportunity to avoid incarcerating those with special needs (i.e. mental illness, substance abuse issues, etc.) (Kang-Brown & Subramanian, 2017). Given the plight of criminal justice involved women and the heightened rates of rural female jail incarceration, the lack of resources in these counties is something that must be addressed.

Rural counties have less ability to recruit necessary criminal justice personnel to move cases along efficiently. It is common for court hearings to only be held during business hours (Kang-Brown & Subramanian, 2017). Oftentimes, criminal justice personnel have to travel long distances to court hearings limits their time to actually be present in court. The slow process of conducting court proceedings makes it difficult to move people out of pretrial detention or to

deliver a sentence and transfer the individual to the assigned facility. The slow moving court proceedings in rural counties then, may be a contributing factor in higher female jail incarceration in these counties.

Lacking personnel also results in less ability to utilize pretrial risk assessment tools and determine who can await trial in their communities rather than in jail. Having more personnel allows time for training in order to take a closer look at who actually needs to be held in pretrial detention and who can continue their lives outside of incarceration while awaiting trial. For those individuals who are released from jail while awaiting trial, the geographical layout of rural counties can be an impediment to reporting to mandatory supervision appointments. If one cannot travel the necessary distance to an appointment, it can result in jail incarceration. The particular difficulties of mothers and other women responsible for their households have previously been discussed, so the importance of this issue to women in particular is clear.

Rural communities themselves may lack community resources like drug treatment and rehabilitation and mental health counselling (Kang-Brown & Subramanian, 2017). Without proper facilities, specialists or training programs available in these communities, providing these types of services to those involved with the criminal justice system via diversion programs is even more difficult than it would be in urban counties that have these resources. Thus, rural jails can become the default mechanism to address social issues that could be handled via social outreach or diversion programs. Access to these types of programs could potentially divert women from encountering the criminal justice system or provide other mechanisms for treatment and correction to keep them from spending time in detention. As previously stated, keeping people in contact with families and support systems is important for beneficial outcomes in terms of recidivism and future employment, so preventing incarceration entirely should be a priority.

Finally, rural jails have financial incentives to grow, regardless of the level of need for the jails. As previously discussed, other jurisdictions and agencies can incarcerate individuals in local jails if the appropriate facility cannot house them. These other agencies pay for beds rural jails, which will receive payments anywhere from \$25 to \$169 per person (Kang-Brown & Subramanian, 2017). Given the need for financial resources in rural counties, the incentive to build bigger jails is clear. When bigger jails are built, they will be filled. Decarcerating rural jails then includes loss of county revenue from housing inmates from other agencies. Thus, the growth of rural jails is at least partially due to lack of resources to accelerate court proceedings and provide alternatives to incarceration in combination with financial incentives to build bigger jails and, in effect, incarcerate more people.

### **Implications on Policies and Alternatives**

The need to reduce female jail incarceration, especially in rural counties, is clear, but in order to do so one must understand what has been driving jail incarceration. Some key policies that may have driven this increase in rural jail incarceration rates could involve local law enforcement procedures, money bail, and lack of other options in terms of dispositions and diversionary programs. For example, legislation may mandate that police hold women in jail while they await trial for a wide variety of crimes. More specific regulations on the circumstances under which police should detain someone facing charges could allow for more women to await and prepare for their day in court without being detained.

Money bail also presents a problem to reducing the rate of female jail incarceration. The large majority of people in jail awaiting trial have not been denied bail but rather could not afford to pay the bail amount (Rabuy & Kopf, 2016). Additionally, bail amounts may be generally set at amounts too high for women to afford, given the occupational, educational, and

economic systemic inequalities that women face. According to a study by the Prison Policy Initiative, \$10,000 is a typical bail amount, but the median annual income of women ages 23 to 39 who could not afford bail was \$11,071 (Rabuy & Kopf, 2016). Further, the median annual income of non-incarcerated women in the same study was only \$22,704 while the median annual income of non-incarcerated men was almost double at \$39,600 (Rabuy & Kopf, 2016). The exceptional difficulty presented by money bail for jailed women is clear. Maybe significantly decreasing bail amounts or ending money bail altogether would help decrease the rate of women, especially rural, indigent women, being held in jails. This change would also save innocent women facing false charges from the repercussions of spending even a few days in jail awaiting trial.

A common alternative to jail incarceration is community supervision, or probation. However, this seemingly beneficial disposition can often create more problems than it solves. The regulations under which one must live while on probation or parole are highly restrictive, and sometimes impedimentary to daily life, especially for women (Rabuy & Kopf, 2016). For example, required meetings with a probation officer might interfere with childcare or occupational responsibilities. Probation might also require that the individual pay fees, which creates a similar problem to those caused by money bail. If someone cannot afford to pay the probation fees or misses a probation meeting, they can end up in jail anyway. Women are placed on probation and parole far more often than the general population under correctional control. In fact, three out of every four women under correctional control are on probation (Rabuy & Kopf, 2016), so addressing the excessively restrictive nature of probation could surely prevent more women on probation from eventually being jailed.

Diversion programs might be a better alternative to incarceration than community supervision. Diversion programs are intended to divert individuals from traditional criminal justice punishments like incarceration and probation. They can be dedicated to different types of individuals, such as juveniles, women, and drug offenders. Depending on the type of program, it may involve regular meetings with a judge, therapy, rehabilitation, or other intervention measures. They can be useful in addressing harmful or criminal behaviors without expending state resources on jail incarceration or subjecting the individual to the numerous negative consequences of incarceration. The ACLU of Kansas recently determined diversion programs to be both cheaper and more effective in reducing recidivism and improving community safety than incarceration (Kubic & Pendergrass, 2017). However, as discussed above, these programs are not offered in every jurisdiction. Garnering support and resources for these programs in rural areas may be helpful in reducing the high female jail incarceration rates plaguing these counties.

This present research aligns with the current knowledge about female jail incarceration in rural counties. It indicates that in the United States, rural counties have higher mean female jail incarceration rates, on average. At the state level, it appears that rural counties also have higher female jail incarceration rates in rural counties, despite not reaching statistical significance. Given the consequences of even brief jail incarceration, this issue should be addressed. Policies regarding which offenses warrant holding in jails, money bail, and parole restrictions may be a good starting point for lowering rural female jail incarceration. Studying female jail incarceration as it relates to urbanicity has revealed that mass incarceration needs to be studied as a local problem because there is great variation in trends at the local level and between local jurisdictions.

### **Limitations and Future Research**

This analysis sheds light on significantly high female jail incarceration in rural counties. This study was conducted using a dataset with missing data for select counties. Certain counties that did not provide incarceration rates for 1970 or 2018 could not be included in the study. Had the missing data been available, perhaps the results of the study would have been different. Simply put, we do not know what we do not know. Future research could explore the nature of missing data in the dataset to determine whether there are any patterns in missingness. Future analyses could also use strategies besides listwise deletion, such as multiple imputation, to account for missing data.

Some factors, such as race, age, region, and socioeconomic status, relevant to incarceration were not included in this study of female jail incarceration. Future research could build on this study by evaluating the roles of these factors as they relate to heightened or decreased female jail incarceration rates. Further, this study simply looked to determine whether urbanicity is a significant factor as it relates to female jail incarceration. It does not explain how much variation in female jail incarceration rates is caused by urbanicity, or how much variation in female jail incarceration may be caused by other factors such as those identified above. Future studies could use multivariate models to answer these questions of relative influence.

The comparison of the years 1970 and 2018 is simply a comparison and does not indicate trends in the time between those years. Future research may investigate longitudinal trends present in the years between 1970 and 2018 and beyond. As another point of comparison, this study included analysis of data for all available counties in the United States and data for all available counties in Pennsylvania. The Pennsylvania data may show different growth than data

from other states, such as those in different regions in the U.S. or with different proportions of counties in each of the four urbanicity categories.

Finally, this research was conducted during the COVID-19 pandemic. Future research may study the policy changes and implications during the U.S. COVID-19 outbreak and whether those policies and implications varied by county urbanicity. Another interesting research question would be whether incarcerated men and women were released at different rates during COVID-19, or if different factors were involved in policies to decrease incarcerated populations by gender. The Prison Policy Initiative has begun studying criminal justice responses to the pandemic. Initially, actions by courts, prosecutors and jail administrators helped reduce jail populations by 30%, but as the pandemic went on, efforts slowed (Prison Policy Initiative, 2021). As more data become available, future research can examine the consequences of jail incarceration during the pandemic with particular attention to women.

The research indicates a shift from urban to rural jail incarceration and significantly higher rates of female jail incarceration in rural counties. This analysis does not provide a complete picture of rural female jail incarceration, but rather begins the process of understanding and eventually rectifying the issue. Future studies can contribute to understanding rural female jail incarceration and contribute to efforts to decarcerate these areas and better the outcomes of criminal justice involved women.

### **Conclusion**

While this study provides relatively narrow insight as to the scope and patterns of female jail incarceration, it should be understood within the larger context of the causes and effects of criminal justice involvement. The ever-important consideration underlying discussions of criminal justice policies and their consequences is the toll that they take on human lives. When

discussing female jail incarceration, specifically its significant increases in rural areas in recent years, the core consideration should be the effects jail incarceration has on women, their families, and their communities. Furthermore, these effects ripple out beyond the communities from which these women come and in which they are incarcerated. Female jail incarceration, like all forms of incarceration, is a national problem. The negative effects of this phenomenon have been discussed at length in this study. The commonalities in women's pathways to offending highlight the opportunity to make positive primary and secondary preventative measures, to avoid criminal justice-involvement and the consequences of it altogether. Interrupting the cycle of jail incarceration is in effect interrupting the cycle of poverty, which benefits criminal justice involved women, their families, their children, and communities everywhere.

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