THE INTERGENERATIONAL TRANSMISSION OF CRIMINAL JUSTICE CONTACT: THE ROLE OF PARENTHOOD, EARLY ADULT OUTCOMES, AND GENDER

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ABSTRACT

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Each year over a million individuals are held in U.S. jails or prisons. Even as research has been dedicated to the intergenerational transmission of criminal justice contact, the underlying mechanisms have yet to be clearly established. Despite the attention paid to parental incarceration, researchers have not focused on the intersection between family processes and criminal justice contact. Scholars have ignored how parenthood influences criminal justice contact, and in effect leads to another generation exposed to parental criminal justice experience. Similarly, the bulk of prior studies have been limited to examining father's incarceration experiences and have omitted the role of mother's incarceration. Using five waves of the Toledo Adolescent Relationships Study (TARS), I investigated whether intervening life course experiences, such as parenthood, may influence the intergenerational transmission of criminal justice contact. Also, rather than focus simply on a direct transmission approach (criminal justice contact of the parent and child), I considered how parental incarceration influences consequential behavioral and well-being indicators in young adulthood. The TARS data afforded an opportunity to account for key parental and respondent behavioral and contextual factors that may explain the intergenerational transmission of criminal justice contact. I expand on prior work by identifying gender differentials in how parental incarceration influences these outcomes. The main findings regarding the role of parenthood indicated a strong association between the entrance to parenthood and probability of criminal justice contact, and this was particularly strong for women. The respondent's criminal behavior explained the effect of parental incarceration suggesting that parental incarceration operated through criminal activity. It appeared that maternal more so than paternal incarceration influenced the intergenerational

transmission of criminal justice contact. Maternal incarceration also influenced the odds of early adulthood substance use and depressive symptoms, while paternal incarceration had a stronger association for men compared to women's depressive symptoms. In sum, my dissertation findings underscored the nuances in the intergenerational transmission of criminal justice contact through incorporating family processes, and accounting for how parental incarceration may work through behavioral and contextual factors.

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CHAPTER I. INTRODUCTION

The consequences of parental incarceration for children have been a topic at the forefront of criminological research for decades, and remains so today. This is for good reason as the United States saw criminal justice contact rise at an unprecedented rate due to mass incarceration (see Western 2006). While incarceration has slowed (see Carson 2020), as of 2018 there were still 1,465,200 individuals incarcerated, many of whom are likely to have children. Research has demonstrated that those who have had a parent incarcerated are more likely to come into contact with the criminal justice system themselves (Burgess-Proctor, Huebner, and Durso 2016; Smith and Farrington 2004; Wildeman and Andersen 2017). Furthermore, these children are more likely to report behavioral problems, delinquency, and substance use, as well as poorer educational outcomes (Hagan, Foster, and Murphy 2020; Mears and Siennick 2016; Miller and Barnes 2015). Despite the abundance of research there are still many unanswered questions regarding the mechanisms underlying the intergenerational transmission of criminal justice contact.

Research has shown the considerable overlap between those with a history of parental incarceration, their own criminal justice contact, and early parenthood, with one common denominator being from lower socioeconomic status families (Lichter, Sassler, and Turner 2014; Pettit and Western 2004; Wildeman 2009; Wu 2017). In addition, these individuals are likely to face similar economic disadvantage in adulthood (Hagan et al. 2020; U.S. DHHS 2000). Furthermore, both criminal justice contact and early parenthood are intergenerational processes (Burgess-Proctor et al. 2016; Bonell et al. 2006; East, Reyes, and Horn 2007; Thornberry et al. 1997) meaning that individuals who have had a parent incarcerated are significantly more likely to have criminal justice contact, and individuals whose parent experienced parenthood early are

also more likely to do so. Conversely, early parenthood may act as a protective factor as individuals 'grow up' and need to engage in behaviors that do not put them at risk of criminal justice contact. Yet, early parenthood could further disadvantage individuals if it impedes on the respondent's economic trajectory. This is may be more influential for respondents who have had one of their parents incarcerated or one of their parents entered parenthood as a teenager. This economic disadvantage is what is associated with criminal justice contact. Further, there may be a selection process of economic disadvantage linking to both criminal justice system contact and early parenthood. No criminological study to date has effectively examined beyond crime and included family processes in tandem to understand how they influence the intergenerational transmission of criminal justice contact.

Men are more likely to come into contact with the criminal justice system (Carson 2020), and because of this most research has focused on their experiences. Although men have more contact, nevertheless, women are still at risk of criminal justice contact. In fact, there were 111,355 women incarcerated in 2018 and women's rates have not been decreasing in the same way that men's rates have decreased (3.3% for women compared to 9.3% for men between 2008 and 2018) (see Carson 2020). Women who come into contact with the criminal justice system are more likely than men to have histories of substance abuse and mental health issues (Bronson, Stroop, Zimmer, and Berzofsky 2017; James and Glaze 2006; Prins 2014; Teplin et al. 1996). Furthermore, women are more likely to be incarcerated for drug related offenses while men are more likely to be incarcerated for violent offenses (Carson 2020). While this is important information to know, these realities do not reveal the longer-term processes that lead men and women to be incarcerated for these specific offenses. One potential contributor to these long-term processes is parental incarceration, which has been linked to higher levels of marijuana use,

criminal offending, and depression in young adulthood (Mears and Siennick 2016; Miller and Barnes 2015; Swisher and Roettger 2012). Scholars have described parental incarceration as creating strains that children can externalize through behavior or internalize through emotions (Conger et al. 1994; Leve, Kim, And Pears 2005; Murray and Farrington 2008; Nolen-Hoeksema, and Grayson 1999). While work has shown this link, research has been unable to disaggregate parental incarceration by the gender of the parent, and control for children's and parents' behaviors that may be confounded with these outcomes.

As growing shares of women enter the criminal justice system (Carson 2020), more scholars have called attention to a new stream of research that disaggregates parental incarceration by whether it was a mother or father incarcerated. One specific question has been whether the association of mothers' or fathers' incarceration is stronger on their children's outcomes. For example, paternal and not maternal incarceration was associated with child behavior problems (Wildeman and Turney 2014) while only maternal incarceration was associated with experiencing a second arrest and violence in prison (Novero, Booker Loper, and Warren 2011; Tasca, Rodriguez, & Zatz 2011). These varying results may be related to other potential factors that underlie these associations. In particular, little attention has been paid to the degree to which parental incarceration has a unique effect on their child's outcomes, once accounting for parental behavioral profiles (antisocial behaviors, substance use) and childhood experiences.

Some researchers have found that paternal incarceration itself may not be detrimental, and instead it is the behaviors preceding incarceration that matter. Additionally, since fathers were less likely to be the primary caretaker of their children paternal incarceration may have limited effects (Glaze and Maruschak 2008). This same question has been raised in regard to

maternal incarceration because mothers who have been incarcerated are likely to have histories of economic disadvantage and antisocial behavior (Giordano 2010; Siegel 2011). Yet, this research has not compared the influences of paternal and maternal incarceration while also controlling for behavioral and contextual factors.

These mixed findings suggest that there are still more unanswered questions regarding the intergenerational transmission of criminal justice contact. Informed by this prior work, in this dissertation I analyzed (1) the intersection between the intergenerational transmissions of criminal justice contact and the entrance to parenthood; (2) how paternal and maternal incarceration influence criminal activity, substance use, and depressive symptoms of the respondent in early adulthood; and (3) how paternal and maternal incarceration influence the intergenerational transmission of criminal justice contact. In all chapters I focused on the experience of having a parent incarcerated by the time the respondent was 13 years old. I did this in order to account for the temporal ordering of parental incarceration, and the respondents' behaviors associated with the outcomes in each chapter. Furthermore, an overarching goal is to create a better understanding of how gender influences these processes. Men and women have different experiences in regard to 1) the entrance into parenthood, 2) management of strain, and 3) parental incarceration (Burgess-Proctor et al. 2016). Therefore, it is crucial to account for gender differences in the intergenerational transmission of criminal justice contact.

To reach these goals, I used data from the Toledo Adolescent Relationships Study (TARS). This dataset was ideal as it offered proper time ordering of important events (criminal justice contact and parenthood), as well as information regarding parental incarceration, prior behaviors, and contextual factors. In the first analytical chapter I examined how respondents' own early parenthood influenced the link between their parental incarceration experiences and

the odds that the respondent would spend time in jail by age 28. I focused on this age because for the age-crime curve this is after criminal activity begins to decline and for parenthood, age 28 is roughly the average age of first birth. So this allows for me to include individuals who may have had a parent incarcerated, but did not experience jail or early parenthood. These are important questions given the considerable overlap in correlates between the intergenerational transmission of criminal justice contact, economic and educational deficits, and early parenthood (Harding 2003; Lee and Ryff 2016; Pettit and Western 2004; Wu 2017). I also explored how parental incarceration experience may influence children's entry into parenthood. This is also important because both parental incarceration and parenthood are intergenerational processes and parenthood may both mediate and exacerbate the intergenerational incarceration relationship.

The second analytical chapter compared paternal and maternal incarceration influences on young adults' reports of criminal activity, substance use, and depressive symptoms. These are important factors to research because individuals who have higher levels of criminal activity, substance use, and depressive symptoms are significantly more likely to come into contact with the criminal justice system (Bronson, et al. 2017; Pinals and Fuller 2017; Sampson and Laub 1993). I also analyzed whether paternal and maternal incarceration had different influences on these outcomes. This is a critical question as most research has focused on how parental incarceration differs from those who have never had the experience, rather than considering gender of the parent. Furthermore, maternal incarceration, although less common, may have more detrimental consequences because mothers are more likely to be the primary caregiver of their children (Glaze and Maruschak 2008).

In the third and final chapter I assessed whether paternal and maternal incarceration influenced the intergenerational transmission of criminal justice contact, specifically young

adults' arrest and incarceration. This is important as gender of the parent incarcerated may have different influences, particularly at different levels of criminal justice contact. Specifically, analyzing how paternal incarceration may influence odds of arrest and incarceration as compared to maternal incarceration is unknown. Therefore, this chapter added to our nuanced understanding of the intergenerational transmission of criminal justice contact.

In each analytic chapter I accounted for potential gender differences of the respondent in the significance of the intergenerational transmission of criminal justice contact. Women are more likely to enter parenthood at earlier ages (Woodward, Fergusson, and Horwood 2006), and when this occurs, it is more likely to occur in non-marital relationships (Wu 2017). Therefore, women are more likely to be the caregiver and provider for their children, which can contribute to economic challenges. On the other hand, because women are more likely to be the primary caregivers they may be more influenced to "get straight" (Augustine, March, Nelson, & Edin 2009). Thus, the role of parenthood in the intergenerational transmission of criminal justice contact may be more influential for women. Additionally, women are less likely to come into contact with the criminal justice system and this could be because they are exposed to fewer strains and have responses that are not associated with crime (Broidy and Agnew 1997). Therefore, parental incarceration as a strain may be more influential for women.

Prior work has also demonstrated that men are more likely to have externalized responses to strain, such as aggression and violence, and women are more likely to have internalized responses, such as withdrawal and depression (Kaufman 2009; Mirowsky and Ross 1995; 2003). Thus, it is likely that paternal and maternal incarceration may be more likely to influence depressive symptoms for women, and less likely to influence criminal activity and substance use. Lastly, men and women's odds of criminal justice contact may be differently influenced by the

gender of the parent incarcerated. Women may be more affected by parental incarceration when they have a mother incarcerated, and men when they have a father incarcerated (See Burgess-Proctor et al. 2016).

The key contributions of this dissertation add to our understanding of the intergenerational transmission of criminal justice contact. First, this research expanded on past work by considering the role that early parenthood has on the intergenerational transmission of criminal justice contact. Prior work has not fully appreciated the overlap between the family institution and the criminal justice system. Additionally, even as research has investigated how parental incarceration can influence outcomes in early adulthood this work has not been able to disaggregate parental incarceration by gender and to control for children's and parents' prior behaviors. Similarly, researchers have not analyzed how paternal and maternal incarceration influence odds of criminal justice contact while also accounting for the behavioral and economic factors associated with both. With the results of this dissertation, researchers will be able to develop more effective policies to alleviate the strength of the intergenerational transmission of criminal justice contact.

CHAPTER II. THE ROLE OF PARENTHOOD IN THE INTERGENERATIONAL TRANSMISSION OF CRIMINAL JUSTICE CONTACT

The rise in mass incarceration was coupled with an increase in the number of children with a parent incarcerated (Pettit 2012; Siegel 2011). Recent work has estimated that approximately 5 million children had a residential parent imprisoned at some time before their 18th birthday (Murphey and Cooper 2015). Contact with the criminal justice system creates disadvantages and negative unintended consequences that accumulate and negatively influence economic outcomes (Lopes et al. 2012) as evidenced by the literature on parental incarceration with economic deficits (e.g., Comfort 2007; Geller, Cooper, Garfinkel, Schwartz-Soicher, and Mincy 2013; Holzer 2007; Hagan and Dinovitzer 1999), and stunted educational trajectories that children face (Hagan and Foster 2012; Hagan, Foster, and Murphy 2020). This cumulative disadvantage resulting from parental incarceration shapes individuals' lives by influencing their life course trajectories.

As mentioned, parental incarceration can have severe economic consequences. Research has demonstrated that growing up in economically disadvantaged neighborhoods can influence the early entrance to adulthood through dropping out of high school and teenage pregnancy (Harding 2003). Both dropping out of school and early parenthood can be considered precocious exits into adulthood (Hagan 1990; Rindfuss, Morgan, and Swicegood 1989). Therefore, it is plausible that parental incarceration may be associated with children's transitions into adulthood. Research has also shown that there is considerable overlap between a history of parental incarceration, the individual's own criminal justice contact, and early parenthood. One particularly salient predictor of all three is socioeconomic status, whether measured by education, employment, or income (Lichter, Sassler, and Turner 2014; Pettit and Western 2004;

Wildeman 2009; Wu 2017). Furthermore, parental incarceration, criminal justice contact, and parenthood (particularly early parenthood) have similar economic and educational consequences (Hagan et al. 2020; U.S. DHHS 2000). Additionally, both criminal justice contact and early parenthood are intergenerational (Burgess-Proctor, Huebner, and Durso 2016; Bonell et al. 2006; East, Reyes, and Horn 2007; Thornberry et al. 1997), thus individuals who have had a parent incarcerated are significantly more likely to have criminal justice contact, and individuals whose parent experienced parenthood early are also more likely to enter parenthood early. Furthermore, parenthood may be a 'turning point' in an individual's life where they transition out of antisocial behaviors, or it can create more disadvantages that are associated with criminal justice contact. Including family processes and not just factors related to criminal justice contact also expands prior criminological research and our understanding beyond just criminal behaviors.

I used data from the Toledo Adolescent Relationships Study (TARS) to analyze the intersection between the intergenerational transmissions of criminal justice contact and the entrance to parenthood. Specifically, how having a parent incarcerated by the time the respondent was 13 was significantly associated with the respondents odds of spending time in jail in early adulthood. Further, how parental incarceration and parents' history of teenage pregnancy may influence the respondents' entrance into parenthood. This dataset was an asset to analyzing this question as it allowed for the sequencing of parenthood and criminal justice experience. This chapter contributed to the literature in the following ways: I used life-table and event history techniques, which allowed me to identify the time ordering of parental incarceration, as well as the respondents' entrances to jail and parenthood. The measure of criminal justice contact is also jail as opposed to incarceration, and the former is an understudied type of contact within criminological work. I also explored a question unanswered in prior

literature; how might parenthood influence the intergenerational transmission of criminal justice contact? Furthermore, because parenthood (particularly early) may be associated with criminal justice contact, it was important to assess whether parental incarceration experience may also influence entry into parenthood. In summary, parenthood may both mediate and exacerbate the intergenerational incarceration relationship.

Parental Incarceration

From 1991 to 2007 there was a 79% increase in the number of parents housed in federal and state prisons, and a corresponding 80% increase in the number of children with an incarcerated parent (Glaze and Maruschak 2008). By midyear 2007 there were a total of 1,706,600 children under the age of 18 who either had a mother, father, or both parents incarcerated (Glaze and Maruschak 2008). This rise has led to additional research to understand the ways in which parental incarceration influences children's probability of criminal justice contact, both directly and indirectly.

In regard to indirect effects, scholars have documented that parental incarceration is associated with less social capital, which diminishes the probability that their families will be involved with and connected to valuable social networks (Portes 1998). Financial strain is also common due to the labor market disadvantage that previously incarcerated fathers experience, which results in fewer resources for supporting families (Bloom and Steinhart 1993; Comfort 2007; Geller, et al. 2013; Hagan and Dinovitzer 1999; Holzer 2007; McLanahan and Bumpass 1988). Prior to imprisonment two-thirds of non-residential fathers contributed financially to their children, however, after incarceration financial contributions dropped significantly (Geller, Garfinkel, and Western 2011; Hairston 1995; Johnson 2009). Individuals who have had a parent incarcerated are also more likely to have stunted educational and economic trajectories (Hagan

and Foster 2012), which in turn increases the likelihood of their own criminal justice contact (Pettit and Western 2004). Therefore, it is likely that the transmission of criminal justice contact can be through the economic and educational deficits it can create for children.

Research also has documented that parental incarceration directly increases the likelihood of children's own criminal justice contact due to increased offending. Among a sample of boys, having ever had a parent—either mother or father—convicted of a crime was the most salient predictor of deviant behavior and offending (Smith and Farrington 2004). Furthermore, for boys paternal incarceration was associated with a significant increase in marijuana use and illegal drug use among girls (Roettger, Swisher, Kuhl, and Chavez 2010). Individuals who experienced paternal incarceration were significantly more likely to report higher levels of delinquency (Swisher and Roettger 2012). For boys, paternal incarceration was associated with an increased probability of being charged with a crime in the next 10 years (Wildeman and Andersen 2017). These results indicate a strong trend of the intergenerational transmission of criminal justice contact.

Parental Incarceration and the Transition to Adulthood

Early exits from adolescent roles, sometimes referred to as precocious exits, often are associated with an early entrance to adulthood (see Hagan 1990). Furthermore, the timing and sequence of these transitions including parenthood and employment may have long-term consequences for life course trajectories (Hogan and Astone 1986). Precocious exits have the potential to create strains, such as economic strain, which may increase odds of deviant behavior later on (Haynie, Petts, Maimon and Piquer 2008). There is considerable overlap between those who come into contact with the criminal justice system and those who enter early parenthood. Lower socioeconomic status likely explains much of this overlap as it predicts both criminal

justice contact and an early entrance into parenthood (Harding 2003; Lee and Ryff; Pettit and Western 2004; Wu 2017).

Within criminology parenthood often is focused on as a potential positive turning point in the life course that may motivate individuals to desist from crime. A turning point has the potential to essentially change the course of an individual's life leading them down a different trajectory (Sampson and Laub 1993). There is mixed evidence regarding parenthood being a positive turning point. Some research has demonstrated how children can be a positive turning point in deviant behavior, with parents citing parenthood as the reason they desisted from deviant behavior (Augustine, March, Nelson, and Eden 2009). However, other research has found that early parenthood is associated with an increase in behaviors associated with criminal justice contact. Individuals who enter parenthood as teenagers are more likely to disrupt their educational trajectories and early careers, and are more likely to have lasting poverty and reliance on public assistance (Maynard 1996; Perper, Peterson, and Manlove 2010; U.S. DHHS 2000). Entering parenthood at an early age is also associated with a higher risk of substance abuse and problem behaviors for women (Ebrahim and Gfroerer 2003; Eden and Kefalas 2007; Teagle and Brindis 1998; Woodward and Fergusson 1999). These teen mothers also have a higher risk of criminal convictions in their young adult years (Coyne, Fontaine, Langstrom, Lichtenstien, and D'Onofrio 2013). Therefore, those who enter parenthood at earlier ages may be more likely to have economic deficits that may influence criminal justice contact. This could be particularly true for individuals who had a parent incarcerated or family history of teenage parenthood.

Parenthood is also an experience that is qualitatively different for men and women. Women are more likely than men to enter parenthood early (which is considered prior to age 25),

and this early entrance is also more likely to be in non-marital family formations (Woodward, Fergusson, and Horwood 2006; Wu 2017). Work within the criminal justice system has demonstrated that mothers who have experienced incarceration are more likely to have been the primary caretakers of their children (Glaze and Marushak 2008). This suggests that women compared to men are more negatively affected by early parenthood, and may be more likely to have criminal justice contact.

While men are often excluded from analyses regarding fertility because they are less accurate in reporting on their fertility than women (see Joyner et al. 2012) research has found teen fatherhood to be associated with increased risk of deviant behavior, substance abuse, and school disruption (Elster, Lamb, and Tavare 1987; Ketterlinus, Lamb, Nitz, and Elster 1992; Resnick, Chambliss, and Blum 1993). Using the Rochester Youth Development Study, Thornberry and colleagues (1997) found that teen fathers were more likely to reside in impoverished neighborhoods with high levels of female-headed households, social disorganization, and higher arrest rates. Teenage fatherhood is also associated with an increase in serious delinquency, including strong-armed robbery, rape, and attacking someone to hurt or kill, compared to their nonparent male peers (Stouthamer-Loeber and Wei 1998). These results suggest that for men, early parenthood may also create disadvantages that ultimately influence antisocial behavior and thus, greater odds of criminal justice contact.

Additionally, the majority of criminological studies of the consequences of parental incarceration have focused on children's own incarceration, specifically prison. This focus is warranted as individuals in prison typically have longer sentences (years as opposed to days) and have been charged and convicted of a crime (Minton and Zeng 2015). However, there were 10.7 million individuals admitted to U.S. jails in 2018, and midyear there were 734,000 being held in

jails across the United States (Zeng 2020). Data have indicated that the average duration in jail was about 25 days. With the large number of individuals entering jails each year, it is imperative to understand the possible implications of such contact.

Current Study

Parental incarceration has numerous negative outcomes for children ranging from poorer health, lower educational attainment, to increased odds of criminal justice contact (Burgess-Proctor et al. 2016; Hagan et al. 2020; Wildeman and Turney 2014). Having a parent incarcerated can set off a chain of events resulting in cumulative disadvantages that influence the trajectory of an individual's life. One particular trajectory may be early entrance into parenthood. Prior work on the criminal justice system has yet to fully account for how early parenthood may influence the intergenerational transmission of criminal justice contact.

I moved beyond prior literature by examining both women and men, while also accounting for the timing of parenthood, parental incarceration, and antisocial and pro-social behaviors. I hypothesized that parental incarceration by the time the respondent turned 13 would be associated with increased odds of the respondent spending time in jail in early adulthood. I anticipated that individual behavioral indicators, such as early parenthood, criminal activity, or substance use would explain the influence of parental incarceration. I also hypothesized that early parenthood would be associated with increased risk of criminal justice contact through the individual's level of offending. Moreover, I expected that parental incarceration would have a larger influence on the women respondents in the sample because women in general have lower levels of criminal justice contact. There is speculation that this is because women are less likely to be exposed to criminal behaviors, therefore being exposed to parental criminality may be more detrimental to women's criminality. Finally, I expected early parenthood to be more influential

for women as this transition often involves co-residence with children and greater caretaking compared to men.

The second set of hypotheses focused on intergenerational processes and the timing of parenthood. I expected respondents who had a parent incarcerated by age 13 to be more likely to enter parenthood by age 28. I focused on this age as the cut off because it accounts for both the entrance into early parenthood (cut off is 25) and the average age of first parenthood, to account for those who may have had parent incarcerated but did not enter parenthood early. I anticipated that their parents' history of teenage pregnancy would be significantly associated with an early entry into parenthood for respondents. I expected gender differences with the significance of parental incarceration and parents own teenage pregnancy playing a larger role in the entrance into parenthood for women as compared to men.

Data and Methods

Data

I analyzed longitudinal data from the Toledo Adolescent Relationships Study (TARS). TARS is a sample based in Lucas County, Ohio. The 1,321 respondents were selected in 2000 from publically available records of students in the 7th, 9th, and 11th grade. As opposed to nationally representative school-based samples, such as the Add Health, school attendance was not required for sample inclusion. The sampling frame of TARS, developed by the National Opinion Research Center, was comprised of 15,188 eligible students stratified by race/ethnicity (non-Hispanic White, non-Hispanic Black, and Hispanic), gender, and grade into 18 strata. TARS oversampled Black and Hispanic students. Through random subsamples, TARS selected 2,273 students from each stratum. Of the 2,273 students, TARS contacted 1,625 and had 304 refusals, leaving 81.3% or 1,321 students. To maintain privacy, each respondent filled out an in-

home questionnaire and more sensitive topics were answered with a computer-assisted personal interview (CAPI). A parent also completed a survey separately from the adolescent during the first interview. Later waves (waves 4 and 5) were completed on-line.

The current study drew from five waves of data. Interviews for wave 1 began in 2001, wave 2 in 2002/2003, wave 3 in 2004/2005, wave 4 in 2006/2007, and the most recent completed data collection occurred for wave 5 in 2011/2012. The population of the sample, in regards to racial and ethnic breakdown as well as percent in poverty matches the general population in the United States (see Giordano, Lonardo, Manning, and Longmore 2010 for a discussion). I first excluded respondents who became parents before the first interview (38 respondents) or prior to age 13 (3 respondents), resulting in 1,280 respondents. Respondents whose records indicated they had spent time in jail but the exact dates could not be confirmed were dropped from the sample (n = 11). Due to small cell sizes, I further limited the sample to respondents who reported their race or ethnicity as White, Black or Hispanic (n = 1,252). I omitted respondents who had missing data on the dependent or independent variables (e.g., the date of birth or jail) and had the risk period end at the respondent's 28th birthday so I retained a total of 1,150 respondents and 314,543 person-months.

Dependent Variables

Multivariate models required that I have information on the date of entry into jail as well as the date of the first live birth for respondents who reported a live birth. At each interview, TARS asked the respondents their personal information including full name, date of birth, and address. TARS used this information and it was entered into public courthouse databases and used to confirm the identity of respondents who had been to jail. I then collected the month and year of in which individuals were booked into county jails. I used the month and date of

birthdates to find the age at which individuals went to jail for the first time. *Jail* is an official indicator that represented if respondents had experienced their first time in jail by age 28.

First Parenthood is a measure that indicates if the respondent experienced parenthood by their 28th birthday. At each wave respondents were asked to report the exact date of birth for all their children. Using the date of birth for their first child and the respondent's date of birth I calculated the age at which respondents experienced parenthood. Respondents who experienced parenthood by their 28th birthday were coded as 1; respondents who never experienced parenthood, or did so after their 28th birthday were coded as 0.

Time-Varying Independent Variables

Time-varying parenthood is an indicator that measured whether the respondent experienced parenthood for the first time *prior* to their first time in jail. At each wave TARS asked respondents to report the exact dates of all their births. Using the exact dates of respondents' birth date and first time in jail I determined if a respondent experienced parenthood prior to experiencing jail. Respondents who experienced parenthood prior to their first time in jail were coded as 1; otherwise respondents were coded as 0.

I included *age,* as a continuous indicator, and as a squared term (in months) as time-varying measures. *Age-squared* accounted for curvilinear change in the likelihood of going to jail and entrance into parenthood. I measured *gainful activity* to account for the potential influence on parenthood decisions. At each wave respondents were asked if they were in school or if they were employed. Respondents were asked, "Are you attending school [high school, vocational school, or college] this year?" Responses were "Yes" or "No," coded as 1 if attending school, and 0 otherwise. Respondents were then asked, "Are you currently working for pay for at least 10 hours a week" and "Is this job full-time or part-time?" Responses were "Yes" or "No," coded

as 1 if respondents indicated that their job was full-time, and 0 otherwise. If respondents indicated that they were either in school or working (full time), they were coded as 1, and 0 otherwise (Alvira-Hammond, Longmore, Manning, and Giordano 2014). I included gainful activity as opposed to differing measures of education and employment because I am also focusing on parts of the respondent's life course where they may be in school working towards a degree. This measure allows me to account for the respondents who are working towards a degree, but may not have higher levels of income or employment (Torpey 2019).

Criminal Activity is measured by an eight-item mean scale in which respondents were asked: "In the last two years (or 24 months), how often have you; (1) stolen (or tried to steal) things worth $5 or less; (2) damaged or destroyed property on purpose; (3) carried a hidden weapon other than a plain pocket knife; (4) stolen (or tried to steal) something worth more than $50; (5) attacked someone with the idea of seriously hurting him/her; (6) sold drugs; (7) broken into a building or vehicle (or tried to break in) to steal something or just to look around; and (8) used drugs to get high (not because they were sick)" (Elliott and Ageton 1980). Responses ranged from (1) "never" to (9) "more than once a day." TARS asked respondents these questions regarding their criminal activity at each interview, and for each wave I created a mean scale. This time-varying covariate assessed respondent's *criminal activity* at the month prior to their month of risk.

Substance use, another time-varying covariate, is a 7-item mean scale in which respondents were asked, "How often in the past 12 months have you experienced these things because of your drinking/using drugs:" (1) Not felt so good the next day, (2) Felt unable to do your best job at work or school, (3) Hit one of your family members, (4) Gotten into fights with others, (5) Had problems with your friends, (6) Had problems with someone you were dating,

and (7) Gotten into a sexual situation that you later regretted. Responses ranged from (1) never to (8) almost daily. This time-varying covariate assessed respondents' *substance use* at the month prior to their month of risk.

Less than high school degree is a variable indicating whether respondents had graduated high school in the month prior to their risk. At all 5 waves respondents were asked what their highest level of education was, and respondents who indicated that they had dropped out of school were coded as 1 and those who did complete high school were coded as 0. Therefore, a 1 indicates the respondent did not graduate college. I included this as an indicator as opposed to a categorical measure of education because the risk of criminal justice contact is the greatest among individuals who do not have a high school degree (see Pettit and Western 2004).

Time-Invariant Independent Variables

Parental incarceration by age 13, measured whether respondents' biological mother or biological father had been incarcerated by the time the respondents were age 13. Those respondents for whom official records indicated a biological parent had experienced incarceration were coded as 1 or else they were coded as 0. This is a measure that is independent of the questionnaire items and required the researchers to conduct internet searches to locate public records of criminal justice contact. TARS collected information on official records for the biological parents of the respondents Using information provided by the respondents' primary caregiver at the wave 1 parent questionnaire. In some cases, TARS only had information on one biological parent, researchers then relied on public data, such as civil cases, divorces, and foreclosures that were available online to seek the name of the other biological parent. Identity of biological parent was confirmed by checking the date of birth, addresses, and middle name provided in the file. If respondents provided different last names at different interviews the

researchers searched all name combinations until all (or if) one of the name combinations matched the online criminal information at hand.

Once TARS confirmed the identity of respondents' biological parent(s), researchers searched for court records in the city respondents listed as their parents' residential addresses. The majority of the time searches were conducted in the public criminal records database in the Toledo clerk of courts, however, many of the respondents lived outside this area so searches were conducted in these areas. Because the search results list any individual with a matching name as the person being searched, researchers used information gathered to confirm the identity of the biological parent in the traffic and criminal records. Other websites were used—such as mugshots—to identify if the biological parent may have resided in any other counties. If the records and official documents of the parent revealed a stay in jail or prison, they were indicated as having been incarcerated. For more in depth information see Findkeldey (2017).

Female, measured as a binary variable, indicated whether respondents reported their sex as female at wave 1. *Two biological parents,* from the parent questionnaire during the first interview, compared two biological parent households versus every other family structure (step families, single parent families, living alone, etc.). *Academic performance* was measured at the first interview and assessed respondents' grades. During the first interview, TARS asked respondents to report the school grades that they were getting that year from (1) "mostly F's" to (9) "mostly A's." Therefore, higher values indicated better academic performance. I controlled for self-reported *Race/ethnicity* at the first interview categorized as: (1) White, (2) Black, and (3) Hispanic

Parental education was measured at the wave 1 parent questionnaire and was reported by their mother or father. Reporting parents were asked how far they went in school. Parents could

choose from (1) 1st-8th grade; (2) less than 12 years; (3) 12 years (or obtained GED); (4) went to business, trade or vocational school after high school; (5) 1-3 years of college; (6) graduated from a college or university; (7) Obtained professional training beyond a 4-year college or university. Parents who reported their educational levels as (1) or (2) were coded as 1, those who reported a (3) were coded as 2, those who reported (4) or (5) were coded as 3, and those who reported (6) or (7) were coded as 4.

Respondents' parent had a teen pregnancy was measured at the parent questionnaire and indicated whether the parent became pregnant or got someone pregnant as a teen. The parent filling out the questionnaire was asked: "At what age did you first become pregnant (or get someone pregnant)? Parents who reported that they became pregnant, or got someone pregnant before the age of 20 were coded as 1; otherwise they were coded as 0. I chose to focus on births before the age of 20 because these are the births that are most likely to have been non-marital and to those with higher levels of economic disadvantage. These are also considered teen births, which are the most likely to create economic deficits.

Analytic Strategy

I estimated discrete-time logistic regression models using person months to analyze how early parenthood influences the intergenerational transmission of criminal justice contact. Following the first wave, respondents contributed monthly observations to the risk of entering jail until they entered jail, or they reached their 28th birthday without having gone to jail. My analyses focused on the entrances into jail and into parenthood by age 28. I coded respondents who experienced jail a value of 1, and those who did not go to jail by age 28 were coded as 0 for all their monthly observations. Similarly, for the parenthood analyses, I coded respondents who experienced parenthood a value of 1, and those who did not enter parenthood by age 28 were

coded as 0 for all their monthly observations. I excluded from my analyses monthly observations past age 28, so I estimated left-truncated models (Guo 1993). There were 162,517 person-months for the analyses predicting respondent's jail and 152,026 person-months for the parenthood analyses. I used person-months as opposed to person years because it allowed me to determine whether respondents had experienced parenthood in the month prior to the month they were at risk of jail.

In Table 1, I provided descriptive statistics for the sample overall, as well as by parental incarceration experience including the sample descriptive statistics for the jail analyses. My analytic strategy consisted of life table methods to estimate the probabilities of experiencing jail stratified by parental incarceration by the age of 13. This is graphed in Figure 1. To analyze whether having had a parent incarcerated by the age 13 was associated with respondents' probability of going to jail by age 28, independent of other factors, I estimated discrete-time logistic regression models in Table 2. In Figure 2, I graphed the estimated cumulative probabilities of entering parenthood by age 28 stratified by parental incarceration experience by age 13. In Figure 3, I graphed the estimated cumulative probabilities of entering parenthood by age 28 stratified by if their parent experienced parenthood as a teen. In Table 4, I used discrete-time logistic regressions to analyze the association between respondents entering parenthood and their parents' history of criminal justice contact and teenage parenthood. In Table 3 I provided the sample descriptive statistics for the parenthood analyses.

I estimated baseline (or zero-order) associations for all independent variables in models that included both the age and age-squared terms. I then included the focal independent variables and respondent demographic controls (*Model 1*). Next, I added respondents' behavioral indicators that may increase the probability of criminal justice contact (*Model 2*). This was

followed by including the respondents' economic controls that may decrease the probability of their criminal justice contact (*Model 3*). Lastly, I included the interaction indicating female respondents who had experienced parental incarceration (*Model 4*), and then the interaction indicating female respondents who experienced parenthood prior to jail (*Model 5*).

Descriptive Results

Table 1 showed the descriptive results for the analyses where I predicted the respondents first time in jail. In the sample, roughly 19% of respondents had been to jail by age 28 and about 22% had a parent incarcerated by their 13th birthday. Respondents with a parent incarcerated were more likely to have gone to jail and to have experienced parenthood prior to contact. Respondents who had a parent incarcerated in childhood also reported higher levels of criminal activity and parent teen pregnancy, and lower levels of high school graduation, living in a two-biological parent household, parental education, and academic performance.

Figure 1 showed the cumulative proportion of individuals who spent time in jail by their 28th birthday, contrasting respondents with and without parental incarceration experience by the age of 13. Results show that roughly 45% of respondents who had a parent incarcerated by the age of 13 had been to jail for the first time by age 28. In comparison, roughly 19% respondents who did not have a parent incarcerated by the age of 13 had been to jail for the first time by age 28. Those respondents who experienced parental incarceration by their 13th birthday were twice as likely to experience their first time in jail by age 28.

Multivariate Results

Jail

While the aforementioned figure demonstrated that respondents who experienced parental incarceration by age 28 had a faster entry into jail, it does not control for other mitigating factors associated with the intergenerational transmission of criminal justice contact. Table 2 included the full array of background factors and presented the discrete-time model logistic regression estimating timing to first jail. The zero order results presented supported the findings from Figure 1: respondents who had a parent incarcerated were over 3 times as likely to have gone to jail by the age of 28. Further, those who experienced parenthood were 7 times as likely to have gone to jail. The zero-order results are consistent with my first hypothesis that parental incarceration and early parenthood would influence odds of spending time in jail.

Model 1 added the focal independent variables, parental incarceration and time-varying parenthood, as well as the respondent demographic controls. The effect of parental incarceration remained statistically significant, but the effect was attenuated by the inclusion of the demographic controls. Respondents who had a child were nearly four times as likely to spend time in jail by age 28. Consistent with prior literature, women were significantly less likely to have been jailed by age 28. Respondents who grew up in a two-biological parent home and those whose parent was more educated were less likely to have gone to jail by age 28. In line with prior literature, Black and Hispanic respondents were over twice as likely to have been to jail. History of parents' own teen pregnancy was not associated with respondents' going to jail by age 28.

In model 2, I added respondents' antisocial behaviors of criminal activity and substance use. Antisocial behaviors further attenuated the statistical significance of respondents' parental incarceration, thus, demonstrating their mediating influence. In additional analyses, I found

criminal activity itself attenuated the statistical significance of parental incarceration, and substance use attenuated the statistical significance of criminal activity. The significance of time-varying parenthood remained. Individuals who reported higher levels of substance use problems were twice as likely to go to jail. Model 3 added in the respondents' economic controls of academic performance, education, and gainful activity. Respondents who had higher academic performance during adolescence and gainful activity during young adulthood were significantly less likely to go to jail. These findings indicated that parental incarceration influences teen criminal activity, grades, and gainful activity, which subsequently affect the likelihood of incarceration in the expected directions.

In Model 4, I added the interaction between gender and parental incarceration to analyze whether the influence of parental incarceration may differ by the gender of the child. Results showed that parental incarceration had a similar influence on the odds of men and women spending time in jail in early adulthood. Model 5 included the interaction between gender and time-varying parenthood to analyze whether parenthood may influence men and women differently. The results supported my hypothesis and indicated that parenthood has a significantly greater influence on the odds of jail for women compared to men.

Parenthood

Like criminal justice contact, early parenthood is also often repeated across generations (Bonell et al. 2006; Burgess-Proctor et al. 2016; East et al. 2007; Thornberry et al. 1997). Further, there is considerable overlap between individuals who have had a parent incarcerated, those who come into contact with the criminal justice system, and those who experience parenthood at earlier ages (Lichter et al. 2014; Pettit and Western 2004; Wildeman 2009; Wu 2017). Therefore, examining how parental incarceration and parenthood predict incarceration can

provide further insight into the intergenerational transmission of criminal justice contact. I used life-table estimates and discrete time models to analyze the timing of respondents' entry into parenthood.

In Table 3, I provided the descriptive statistic results for the analyses predicting the timing of parenthood by age 28. Respondents who experienced parenthood were more likely to have had a parent incarcerated by age 13 (29% versus 18%). Parents were also more likely to have their own parents report teen parenthood (39% versus 22%).

Figure 2 showed the cumulative proportion of respondents who experienced parenthood by age 28 by parental incarceration status. Results indicated that 58% of respondents who had a parent incarcerated by the age of 13 also experienced parenthood by age 28 as compared to 40% of respondents who did not have a parent incarcerated. This figure is consistent with my hypothesis that having a parented incarcerated would predict an earlier entry into parenthood.

Because early entry into parenthood is often intergenerational, I used life-table estimates to graph the cumulative proportion of respondents who experienced parenthood by their parents' reports of teenage parenthood. This is graphed in Figure 3. Roughly 63% of respondents whose parents reported teen parenthood experienced parenthood by age 28 compared to about 37% of respondents whose parents did not experience parenthood as a teen. This life table demonstrated how intertwined criminal justice contact is with family processes.

Figures 2 and 3 did not control for other potential factors associated with parental incarceration and early entry into parenthood. Table 4 presented the discrete-time multivariate

logistic regression models estimating entry into parenthood. The zero order results showed that respondents who had a parent incarcerated by age 13 were twice as likely to enter parenthood by age 28. Model 1 included the focal independent variables indicating parental incarceration and parental history of teen pregnancy along with the demographic controls. Parental incarceration by age 13 was only marginally significant, but was attenuated by respondents' academic performance during adolescence (wave 1). Consistent with the intergenerational fertility literature, respondents whose parents experienced teen pregnancy were significantly more likely to enter parenthood by age 28.

The sociodemographic indicators were associated with parenthood. Women, as well as Black and Hispanic individuals were significantly more likely to experience parenthood prior to age 28. Respondents who grew up in a two-biological parent house and those with higher levels of parental socioeconomic status were significantly less likely to enter parenthood by early adulthood. Model 2 demonstrated that respondents' antisocial behaviors (criminal activity and substance use) were not associated with the timing of parenthood. In model 3, I added the respondents' pro-social behaviors, and respondents with higher academic performance during adolescence were significantly less likely to enter parenthood by age 28. The significance of parental incarceration was attenuated by the respondents' academic performance in adolescence. Model 4 showed no significant gender differences regarding the influence of parental incarceration on the transition to early parenthood. In model 5, the interaction between gender and parents' history of teenage pregnancy was marginally significant. The findings indicated that as opposed to parental incarceration influencing early parenthood, parents' reports of their own teenage pregnancy were associated with an increased risk of respondents' early parenthood.

Discussion

Mass incarceration has decimated families and communities, and more children than ever have had a parent incarcerated at one point in their lives (Carson 2020; Murphey and Cooper 2015). Because parental incarceration has been shown to negatively influence economic, educational, and behavioral trajectories scholars have been focusing on its potential consequences. This chapter sought to examine how early parenthood may influence the intergenerational transmission of criminal justice contact. The results have implications for our understanding of the intergenerational processes of criminal justice contact and early entrance into parenthood.

Results supported prior research on the intergenerational transmission of criminal justice contact with respondents who had a parent incarcerated more likely to have spent time in jail in early adulthood. Furthermore, the respondent's substance use and criminal activity attenuated the significance of parental incarceration. This also supports my hypothesis because parental incarceration had a direct effect by increasing the respondent's offending. Parental incarceration seems to influence the odds of spending time in jail through the respondent's criminal activity and substance use. Despite controlling for a variety of factors associated with early parenthood, respondents who transitioned to early parenthood were significantly more likely to have gone to jail. Women, compared to men, who transitioned to parenthood were twice as likely to have been to jail in early adulthood.

These results demonstrated how parental incarceration and respondents entrance into parenthood are associated with an early entrance into jail. Parental incarcerations' influence on the odds of their children going to jail works through their children's criminal activity. This is important as it illustrates the mechanism through which the intergenerational transmission of

criminal justice contact works. The mechanisms through which the respondents' entrance into parenthood influenced their odds of jail were not clear. Furthermore, they show the importance of including parenthood, as it was a particularly salient predictor of spending time in jail for women. These results have implications for the collateral consequences of parental incarceration literature (see The Pew Charitable Trust 2010) because these respondents who spent time jail also had children. Therefore, these children who have had a parent incarcerated are likely to experience the economic deficits associated with parental incarceration.

The results regarding respondents' timing to parenthood demonstrated that parental incarceration influences their children's entrance into parenthood through their children's lower academic performance in adolescence. The results also indicated that having a parent who reported a teenage pregnancy was associated with an increased risk that the respondent would enter parenthood in early adulthood. These results suggest that both parental incarceration and history of teenage pregnancy are associated with their children's precocious exits to adulthood, the former through academic performance. The lack of gender significance also points to the experience of parental incarceration operating similarly for men and women. Perhaps being exposed to parental incarceration as a strain has similar influences on criminal behavior for both men and women.

Although the findings in this chapter have expanded our understanding of the intergenerational transmission of criminal justice contact there are a few limitations that should be noted. First, although I used official reports of jail some official records may not have been available. I also only focused on jail and parenthood that occurred by age 28, more research is needed to see how parental incarceration may be influential after early adulthood. This sample is not nationally representative and may not reflect overall trends of parental incarceration. Further,

I have made the assumption that most of the parents' teenage pregnancies resulted in live births, but I do not know for sure. Additionally, I did not disaggregate parental incarceration into paternal and maternal incarceration. I also was not able to distinguish between the parent's incarceration and their criminal activity. In the same way that parents' history of teen pregnancy predicts their children's timing of parenthood, the parents antisocial behavior may still be driving the significance of the intergenerational transmission of criminal justice contact. Lastly, the mechanisms behind the intergenerational transmission of early parenthood are not readily known.

The results of this chapter have added to a more nuanced understanding of the intergenerational processes that influence criminal justice contact. For respondents who are early parents and who spend time in jail, their children are at risk of having both a parent and a grandparent with criminal justice contact. Further, respondents who had a parent who reported a teenage pregnancy were significantly more likely to enter parenthood at all ages until age 28. Their children will have had both a parent and a grandparent who experienced parenthood early. There is also likely to be a group of children that have both intergenerational criminal justice contact and early entrances into parenthood. Special attention should be paid to these circumstances as these children may be at most risk of criminal justice contact and precocious exits into adulthood.

The results of this chapter suggest that policy makers should consider policies and funding for sex education and reproductive rights. One of the most salient predictors of criminal justice contact was early parenthood, particularly for women. This early parenthood was also influenced by *parents'* history of teenage pregnancy. Therefore, future policies should incorporate more sex education into educational curriculum and increase the amount of

information and the time spent on reproductive health. Additionally, policymakers should consider substantially more funding for reproductive rights and family planning to decrease the number of individuals entering parenthood at earlier ages. This is imperative as this chapter demonstrated how early parenthood is associated with an increased risk of criminal justice contact.

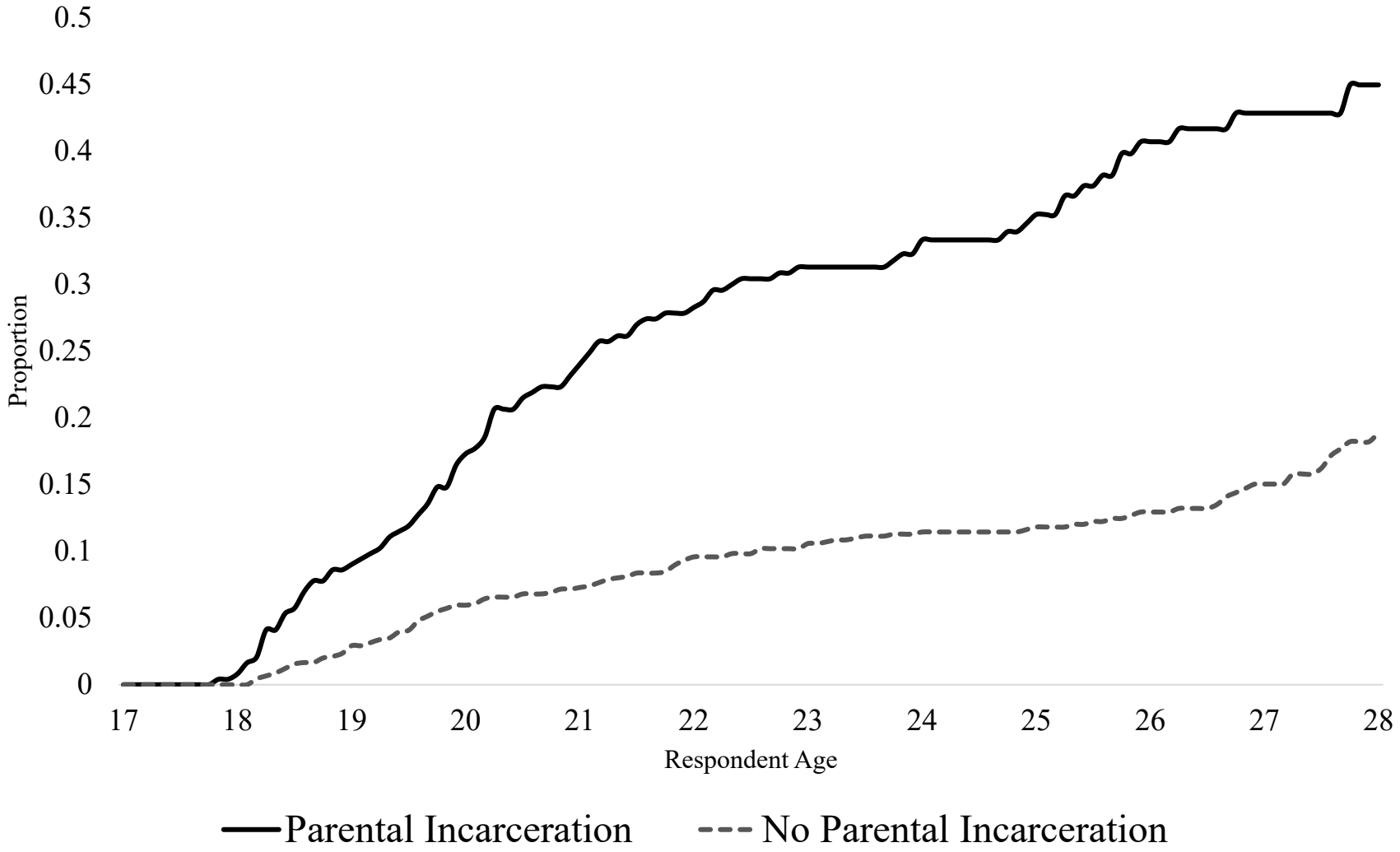

Figure 1. Respondent First Jail by Parental Incarceration by Age 13 Status
Source: Toledo Adolescent Relationships Study

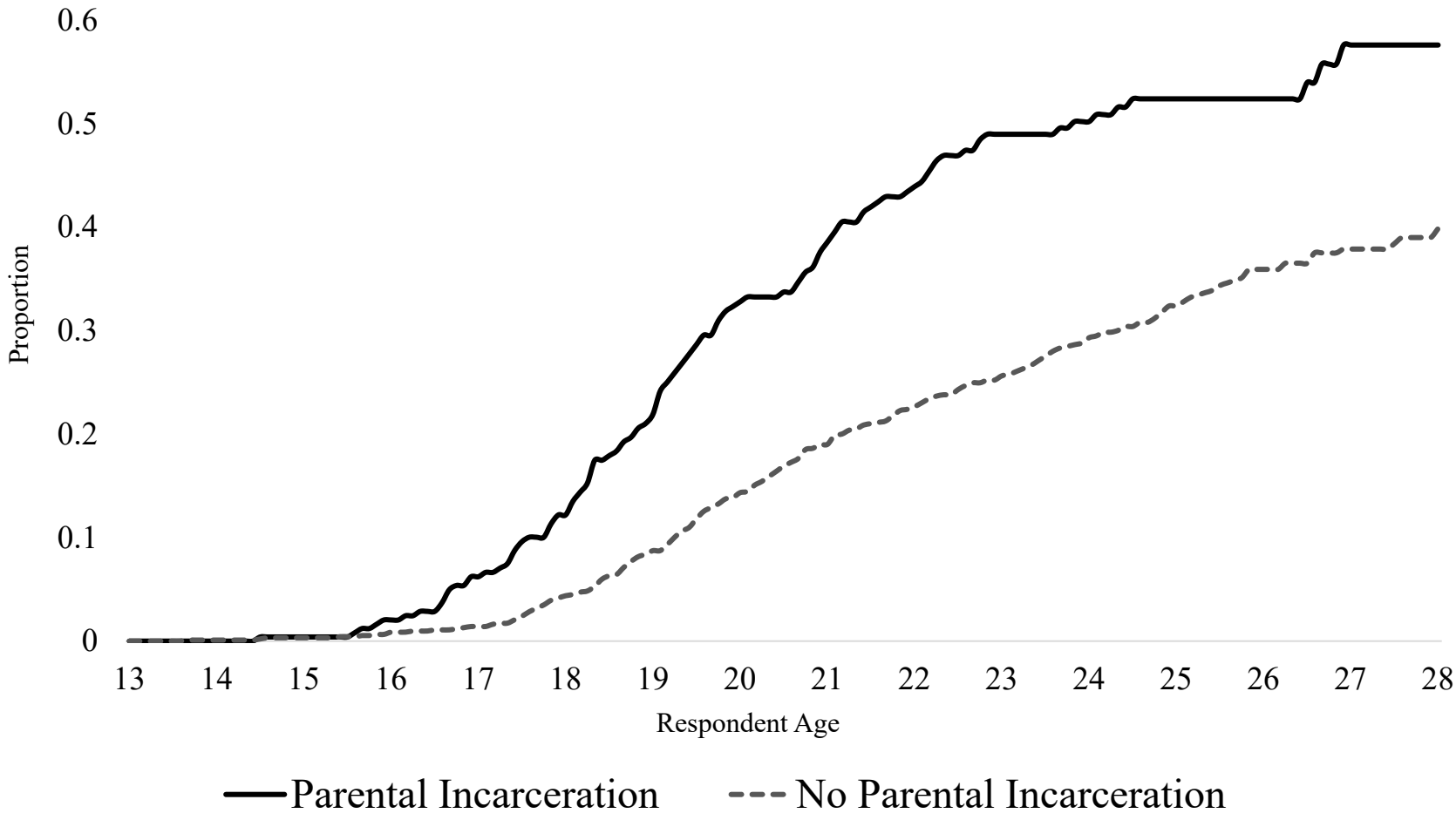

Figure 2. Respondent First Parenthood by Parental Incarceration by Age 13 Status
Source: Toledo Adolescent Relationships Study

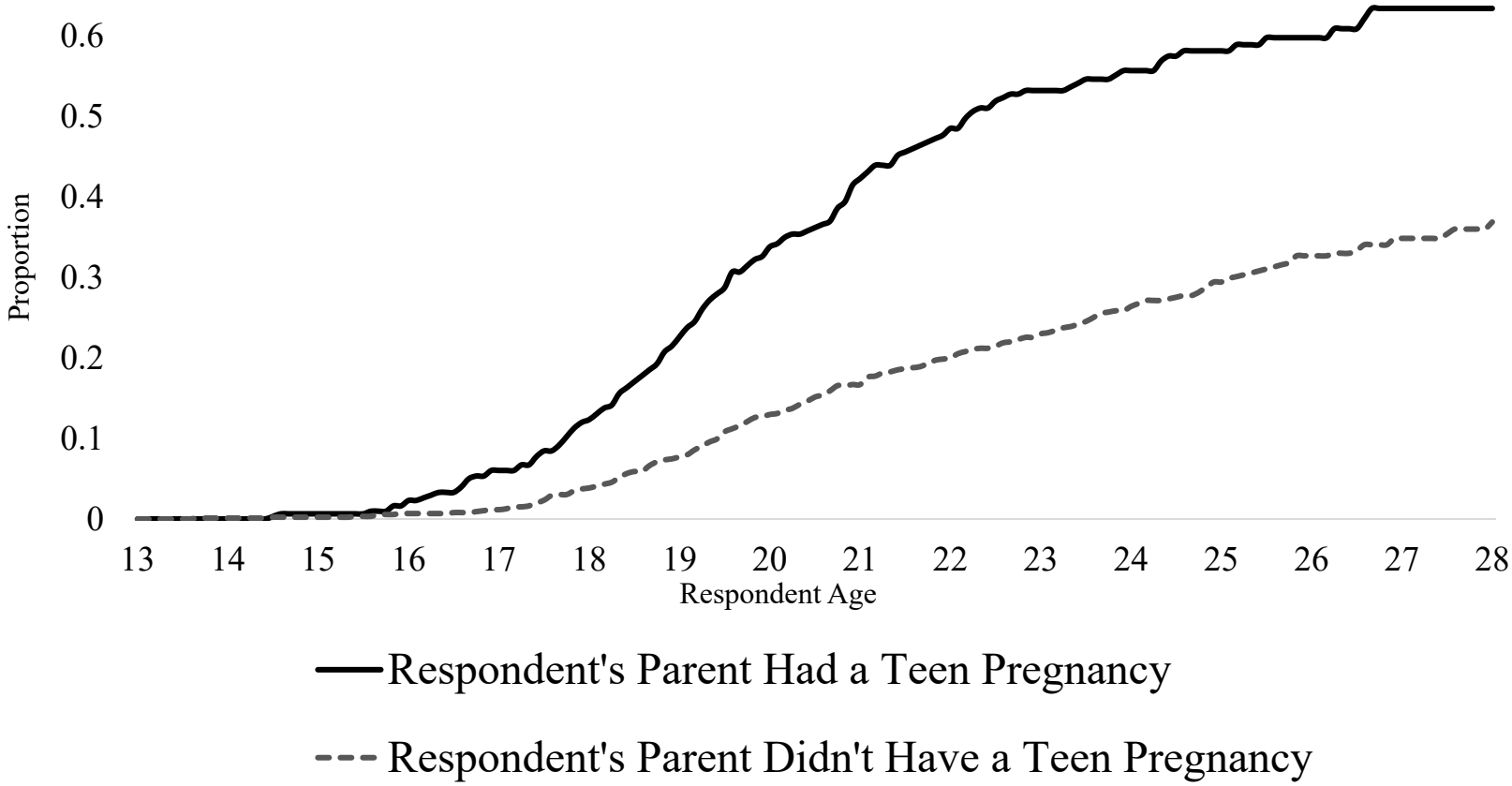

Figure 3. Respondent First Parenthood by Parent Teenage Pregnancy Status
Source: Toledo Adolescent Relationships Study

Table 1. Descriptive Characteristics of the Analytic Sample Predicting Jail

	Full Sample		PI		No PI	
Dependent Variable	M or %	SD	M or %	SD	M or %	SD
Criminal Justice Contact						
Jail	19.21		37.40		13.93	
Age at first jail	21.24	2.70	20.94	2.44	21.49	2.87
Time-Varying Independent Controls						
Parenthood	5.76		13.01		3.66	
Age in years	23.38	3.42	22.74	3.53	23.57	3.36
Criminal Activity	0.25	0.62	0.35	0.79	0.22	0.56
Min 0; Max 8;						
Substance Use	0.14	0.26	0.13	0.27	0.14	0.26
Min 0; Max 2.1;						
Respondent Education						
Less than high school degree	8.87		17.89		6.26	
(High school degree or more)	91.13		82.11		93.74	
Gainful Activity	89.39		82.52		91.38	
Time-Constant Independent controls						
Parental Incarceration by age 13						
Parental Incarceration	22.51		N/A		N/A	
(No Parental Incarceration)	77.49					
Gender						
Female	51.05		50.00		51.36	
(Male)	48.95		50.00		48.64	
Family Structure						
Two Biological Parents	50.87		28.05		57.50	
(All other family structures)	49.13		71.95		42.50	
Parental Education	2.65	0.96	2.36	0.93	2.73	0.95
Min 0; Max 4;						
Race/Ethnicity						

Black	24.25		42.68		18.89	
Hispanic	12.26		19.92		10.04	
(White)	63.49		37.40		71.07	
Parent Had a Teen Pregnancy						
Teen Pregnancy	27.72		43.09		23.26	
(No Teen Pregnancy)	72.28		56.91		76.74	
Academic Performance	6.15	2.05	5.07	2.15	6.46	1.91
Min 1; Max 9;						
N	1093		246		847	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

Person months=162517

Table 2. Odds Ratios of Entry into Jail Based on Discrete-time Logistic Regression

Variables	Zero Order	Model 1	Model 2	Model 3	Model 4	Model 5
Parental Incarceration by Age 13						
Parental Incarceration	3.23 ***	1.42 *	1.35 †	1.30 †	1.34	1.36 *
(No Parental Incarceration)						
Time-Varying Parenthood	7.06 ***	3.82 ***	3.67 ***	3.37 ***	3.35 ***	2.36 ***
Controls						
Age	1.23 ***	1.23 ***	1.22 ***	1.21 ***	1.21 ***	1.21 ***
Age Squared	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***	1.00 ***
Gender						
Female	0.42 ***	0.38 ***	0.39 ***	0.40 ***	0.41 ***	0.30 ***
(Male)						
Family Structure						
Two Biological Parents	0.24 ***	0.38 ***	0.41 ***	0.44 ***	0.44 ***	0.46 ***
(All other family structures)						
Parental Education	0.62 ***	0.80 **	0.83 *	0.89	0.89	0.89
Race/Ethnicity						
Black	5.41 ***	2.54 ***	2.77 ***	2.74 ***	2.74 ***	2.81 ***
Hispanic	3.66 ***	2.29 ***	2.39 ***	2.26 ***	2.26 ***	2.29 ***
(White)						
Parent Had a Teen Pregnancy						
Teen Pregnancy	2.17 ***		1.14	1.15	1.15	1.16
(No Teen Pregnancy)						
Behavioral Indicators						
Criminal Activity	1.51 ***		1.08	1.04	1.04	1.06
Substance Use	2.74 ***		2.21 **	2.05 **	2.05 **	2.01 **
Economic Controls						
Academic Performance	0.72 ***			0.88 ***	0.88 ***	0.89 ***
Respondent Education						
Less than high school degree	6.12 ***			1.87	1.87	1.74
(High school degree or more)						

Gainful Activity	0.42	***				0.71	*	0.71	*	0.74	*
Interactions											
Female*Parental Incarceration								0.93			
Female* Parenthood										2.45	**

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001

N= 1093; Person months=162517

Table 3. Descriptive Characteristics of the Parenthood Analytic Sample

Dependent Variable	Full Sample		PI		No PI		Parents		Not Parents	
	M or %	SD	M or %	SD	M or %	SD				
First Birth	34.51		45.63		31.33					
Age at first birth	20.54	2.69	19.69	2.39	20.90	2.73				
Time-Varying Independent Covariates							M or %	SD	M or %	SD
Age in years	22.21	3.62	21.10	3.76	22.53	3.52	20.46	2.68	23.12	3.72
Criminal Activity	0.26	0.60	0.33		0.24	0.54	0.28	0.56	0.26	0.65
Substance Use	0.13	0.27	0.13		0.14	0.27	0.14	0.30	0.13	0.26
Respondent Education										
Less than high school degree	6.78		10.32		5.77		11.14		4.50	
(High school degree or more)	93.22		89.68		94.23		88.86		95.50	
Gainful Activity	91.73		86.11		93.33		87.59		94.04	
Time-Constant Independent Covariates										
Parental Incarceration by age 13										
Parental Incarceration	22.18		N/A		N/A		29.37		18.15	
(No Parental Incarceration)	77.82						70.63		81.85	
Gender										
Female	51.76		50.40		52.15		61.77		46.23	
(Male)	48.24		49.60		47.85		38.23		53.77	
Family Structure										
Two Biological Parents	50.97		28.57		57.35		37.97		57.48	
(All other family structures)	49.03		71.43		42.65		62.03		42.52	
Parental Education	2.64	0.96	2.36	0.93	2.72	0.95	2.35	0.90	2.79	0.96
Race/Ethnicity										
Black	24.38		43.65		18.89		30.63		21.19	
Hispanic	11.62		19.05		9.50		15.70		9.67	
(White)	64.00		37.30		71.61		53.67		69.14	
Parent Had a Teen Pregnancy										
Teen Pregnancy	27.55		43.65		22.96		38.99		21.59	
(No Teen Pregnancy)	72.45		56.35		77.04		61.01		78.41	

Academic Performance at Wave 1	6.18	2.05	5.15	2.16	6.48	1.92	5.55	2.10	6.49
N	1150		253		897		395		755

Source: Toledo Adolescent Relationships Study
Person Months =152026

Table 4. Odds Ratios of Entry into Parenthood Based on Discrete-time Logistic Regression

Variables	Zero Order		Model 1		Model 2		Model 3		Model 4		Model 5	
Parental Incarceration by Age 13												
Parental Incarceration	1.99	***	1.22	*	1.23	*	1.08		1.31		1.09	
(No Parental Incarceration)												
Parent Had a Teen Pregnancy												
Parent Teen Pregnancy	2.64	***	1.50	***	1.51	***	1.45	**	1.46	**	1.81	***
(No Teen Pregnancy)												
Controls												
Age	1.22	***	1.22	***	1.22	***	1.22	***	1.22	***	1.22	***
Age Squared	1.00	***	1.00	***	1.00	***	1.00	***	1.00	***	1.00	***
Gender												
Female	1.61	***	1.64	***	1.66	***	1.82	***	2.01	***	2.10	***
(Male)												
Family Structure												
Two Biological Parents	0.39	***	0.59	***	0.59	***	0.63	***	0.63	***	0.63	***
(All other family structures)												
Parental Education	0.57	***	0.69	***	0.69	***	0.73	***	0.74	*	0.73	***
Race/Ethnicity												
Black	2.32	***	1.44	**	1.45	**	1.35	*	1.35	*	1.35	*
Hispanic	2.54	***	1.46	*	1.45	*	1.47	*	1.46	*	1.48	*
(White)												
Behavioral Indicators												
Criminal Activity	1.16	†			1.02		0.95		0.95		0.94	
Substance Use	1.12				1.14		1.05		1.04		1.04	
Economic Controls												
Academic Performance	0.79	***					0.85	***	0.85	***	0.85	
Respondent Education												
Less than high school degree	2.80	***					1.04		1.05		1.04	
(High school degree or more)												
Gainful Activity	0.49	***					0.80		0.81		0.82	

Interactions			
Female*Parental Incarceration	0.72		
Female*Parent Teen Pregnancy		0.69	†

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001

N= 1150; Person months=152026

CHAPTER III. PARENTAL INCARCERATION AND THE PATHWAYS TO THE CRIMINAL JUSTICE SYSTEM

Much of criminological theory and knowledge regarding crime is based on the experiences of men (e.g., Gluck data, Philadelphia Birth-Cohort Study, etc.). Scholars have described women and girls in the criminal justice system as invisible, likely due to sexism, racism, and the genderless, yet undoubtedly male oriented, treatment and programs in the CJS (Covington 2002; Young and Reviere 2006). The discipline has been calling for a gendered focus on the causes and correlates of criminal activity and delinquency for some time (e.g., Covington 2002; Daly and Chesney-Lind 1989; Giordano 2010), yet decades later there are still gender discrepancies in criminological studies with women underrepresented.

Although men are significantly more likely to be incarcerated than women, nevertheless, in 2018 women made up roughly 7.6% of the incarcerated population, while men made up 92.4% of the prison population (Carson 2020; Zeng 2020). However, despite these disparities, over the last decade involvement in the criminal justice system for women has not seen as large of a decrease as compared to men (3.3% for women versus 9.3% for men) (see Carson 2020). With criminal justice contact comes consequences for individuals, families, and communities, and with so many women having contact we need to understand the factors that are associated with their contact.

One way in which to bridge this gap is to include women in analyses regarding criminal justice contact. Research has demonstrated that women who come into contact with the criminal justice system are particularly disadvantaged, and are more likely than men to have histories of substance abuse, mental health issues, and victimization (Bloom and Covington, 2009; Covington and Bloom 2006; Dodge and Pogrebin, 2001; Greenfeld and Snell 1999; Harwell and

Orr, 2009; James 2004; Mumola 2000; Tripodi and Pettus-Davis, 2013). This suggests that perhaps men and women have different pathways to the criminal justice system. Therefore, another way to bring women's experiences to the forefront of the criminological literature is to include the pathways to the criminal justice system that are more likely to be experienced by women.

Data including women have shown differences in the crimes for which men and women are incarcerated, with men more likely to be incarcerated for violent offenses, and women for drug related offenses (Carson 2020). In the general population men and women have similar rates of illicit drug use, however, women are more likely to be incarcerated for drug related offenses (Carson 2020). Both within the general population and in jails or prisons women are more likely to report recent mental health issues as compared to men (James and Glaze 2006; Prins 2014). Although data can indicate what men and women are incarcerated for, these statistics do not reveal the longer-term processes that lead men and women to be incarcerated for these specific offenses.

One potential factor is that parental incarceration may have different effects on sons and daughters through the specific strains and behaviors to which it exposes them. There are documented long-term effects of parental incarceration on children, as analyses have found that parental incarceration is associated with depression, negative health outcomes, poorer educational outcomes, higher levels of marijuana use, and criminal offending in young adulthood (Mears and Siennick 2016; Miller and Barnes 2015). Parental incarceration can be a source of strain on their children and they may internalize this strain through emotions or externalize through behaviors (Broidy and Agnew 1997; Conger et al. 1994; Leve, Kim, And Pears 2005; Murray and Farrington 2008; Nolen-Hoeksema, and Grayson 1999). However, it is also possible

that parental incarceration does not operate differently for men and women in regards to behavioral and well-being outcomes. Prior work in this area, however, has been unable to disaggregate parental incarceration by the gender of the parent, nor control for respondents' and parents' behaviors that may influence early adult outcomes.

Using the Toledo Adolescent Relationships Study (TARS) I examined how parental incarceration influenced three important early adulthood outcomes that are associated with criminal justice contact: (1) criminal activity; (2) substance use; and (3) depressive symptoms. This chapter makes several contributions to our understanding of crime, and the relationship between gender and crime. First, my analyses incorporated women and examine potential pathways to the criminal justice system more common among them, including substance use and mental health issues. I also examined criminal activity, which is more commonly the pathway to the criminal justice system for men. Further, I assessed how parental incarceration may influence these pathways, separately for paternal and maternal incarceration. Taken together, this chapter added to a more nuanced understanding of the consequences of parental incarceration by analyzing how paternal and maternal incarceration in adolescence may influence criminal activity, substance use, and depressive symptoms in early adulthood.

Gender and Crime

Within criminology there is a debate regarding how to incorporate the experiences of women within traditional theories of crime. One position is that the traditional theories of crime can apply similarly to men and women, whereas the other argues for new theoretical frameworks that acknowledge gender inequalities and the unique experiences of women in society. A third hybrid approach, which I used, suggests integrating traditional theories of crime, such as general strain theory (GST) and social learning theory (SLT), with the pathways perspective. This allows

for researchers to incorporate the potential differences in how men and women respond to strain and learn antisocial behaviors from others. Additionally, it may also show that men and women respond to strain in similar ways.

GST argues that crime results from an uneven distribution of legitimate avenues to achieve societal goals (Agnew 1992; Cloward and Ohlin 1960). When individuals are not able to achieve societal goals of economic success they may adapt in the form of crimes that have a potential monetary payoff (Agnew 1992; Cloward and Ohlin 1960). These theorists are focused on the factors that blocked individuals from accomplishing valued goals (Agnew 1992). Scholars have recognized that there are different ways in which people respond to strain – emotionally, behaviorally, and cognitively – that may be conducive to criminal behavior. Therefore, strain is likely to influence individual's criminal activity, substance use, and depressive symptoms.

Agnew contended that strain theory is suitable to analyze gender differences because both genders experience strain, however, women may be exposed to fewer strains that are soluble with crime (Agnew 1992). The argument is that men are exposed to more strains, different types of strains, and have responses that are associated with more crime (Broidy and Agnew 1997). GST also acknowledges women disproportionately experience certain types of strain (such as victimization, child-related responsibilities, and gender discrimination) and have different responses to strain (internalizing/mental health issues as opposed to externalizing/violence) (Broidy and Agnew 1997). Therefore, strain theory may be beneficial when analyzing gender differences in response to strains. Alternatively, there may not be any gender differences in how men and women respondent to parental incarceration as a strain. While prior work has illustrated that men may be more likely to externalize and women are more likely to internalize, there may

be no differences. Men may also internalize strain similarly to women, and women may externalize strain similarly to men.

Externalizing behaviors are defined by Waldfogel and colleagues (2010) as outward behavioral displays of anger, including aggression and violence, whereas internalizing behaviors are defined as introverted emotions like sadness, withdrawal, anxiety, and depression. There is supporting research that has shown that men respond to strain with anger and women respond with depression (Kaufman 2009; Mirowsky and Ross 1995; 2003). One particular traumatic event that can create strain is parental incarceration. Scholars have found that in response to parental incarceration men usually externalize through criminal activity and women internalize through depression or anxiety (Conger et al. 1994; Leve, et al. 2005; Murray and Farrington 2008; Nolen-Hoeksema, and Grayson 1999). Therefore, it is likely that parental incarceration is a type of strain that may illicit different responses from men and women.

According to social learning theory (SLT), deviant behavior is learned as a result of associating with others who are deviant (Burgess and Akers 1966). Scholars within SLT claim that individuals learn crime through modeling or direct imitation of someone in their social setting (Akers 1977; 1985; Khron et al. 1985; Shaw and McKay 1942). Furthermore, the probability of continuing with deviant and criminal behavior is a result of the rewards and or punishments that follow the act they are modeling or imitating. It is possible that this behavior is reinforced over time through direct observation of deviant behavior being rewarded. Scholars have found that social learning through peers and behavioral reinforcement explained higher levels of substance use and abuse (Akers et al. 1979; Khron et al. 1986). These results suggest that individual's criminal activity, substance use, and depression may be influenced by others around them, such as their parents.

Within this theory it is argued that women, compared to men, are exposed less to criminal activity, and there is a unique gender socialization experience in which men and women are taught different attitudes (Leonard 1982). Women are more likely to be taught to abide the law, not to commit deviant behaviors, and are held to higher behavioral standards, therefore are less likely to have favorable attitudes towards law-breaking (Leonard 1982). However, scholars have acknowledged that these differences better explain the gender gap in crime than it does more general antisocial behavior (Giordano 2010). Furthermore, it is possible that men and women learn similarly from their parents who exhibit antisocial behaviors around or with their children.

Criminal Activity and Criminal Justice Contact

Individuals with higher levels of criminal activity are more likely to come into contact with the criminal justice system (Sampson and Laub 1993). Furthermore, boys and men are also more likely to report higher levels of criminal activity as compared to girls and women (Steffensmeier and Allan 1996). Gender is the most consistent and strongest predictor of most crimes and deviant behavior. Males—with the exception of sex trade related offenses—have higher odds and rates of offending than do women (Tittle and Paternoster 2000). There is also ample evidence demonstrating that men commit more violent crimes than women, with some researchers describing this finding as an undisputed criminological fact (e.g., Lauritsen, Heimer, and Lynch 2009).

Parental incarceration has also been linked to increases in their children's aggressive behavior (Geller, Garfinkel, and Western 2011). Parental incarceration was also found to significantly increase their boys' antisocial behavior in adolescence and adulthood (Murray and Farrington 2005). Scholars also found that despite controlling for parents' criminal activity, boys who had a parent incarcerated had more antisocial behavior from adolescence (age 14) to middle

adulthood (age 48) (Murray and Farrington 2008). These studies do not include women and cannot speak to how women may externalize the strain presented from parental incarceration. They also do not disaggregate parental incarceration by paternal and maternal incarceration. Furthermore, the measure of parental criminal activity assessed was based on number of convictions, and not separate from criminal justice contact.

Evidence has suggested that parental incarceration has a stronger effect on delinquency for adolescent boys as compared to girls (Cummings, Davies, and Campbell 2000; Murray, Farrington, and Sekol 2012; Wildeman 2010). Prior research has found that the timing of parental incarceration may influence individuals' deviant behavior in adulthood. Specifically, paternal incarceration may have the most influence on adult deviant behavior when it occurs during adolescence as opposed to later in life (Swisher and Shaw-Smith 2015). Therefore, research on gender differences in the relationship between parental incarceration and criminal activity may be an artifact of the timing of when that parent was incarcerated (earlier relative to later stages in the life course).

For both adolescent boys and girls, perceiving their opportunities for economic success to be blocked was equally associated with delinquency (Giordano and Cernkovich 1997). However, further analyses have shown gender differences in how negative life events affect property and violent delinquency (Mazerolle 1998). Empirical research using this theoretical framework has found that traumatic events similarly affect men and women's drug use and delinquency involvement in the short term (Hoffman and Su 1997; Mazerolle 1998). A sample of girls in adult court for felonious assault or aggravated robbery were interviewed about their lives and results showed that disadvantaged background and gendered processes led to criminal justice contact (Gaarder and Belknap 2006). More specifically, many of these women had histories

marked by parental deviance and drug use and their own poor school performance. So, parental incarceration may influence men and women's outcomes similarly, but prior work has not been able to pinpoint the pathways.

Substance Use and Criminal Justice Contact

Individuals involved in the criminal justice system are also more likely to report drug use or dependency. Between 2007 and 2008, roughly two-thirds of individuals sentenced to jail, and three-fifths of state prisoners met conditions of drug abuse or dependency, compared to only 5% of the general adult population (Bronson, Stroop, Zimmer, and Berzofsky 2017). There are also gender discrepancies regarding substance use that comes to the attention of the criminal justice system, with more women than men reporting drug use in the month prior to their current offense (Bronson et al. 2017). Similarly, of those at Hampden County Correctional Center, 59% of women reported having a drinking problem compared to 36% of men (Conklin, Lincoln, and Tuthill 2000). Furthermore, 70% of women, compared to 50% of men, indicated that they had problems with law enforcement due to their drug use. Of women incarcerated in Kentucky, many of them reported alcohol abuse in the month prior to their incarceration (Stanton et al., 2003). These women were also likely to report regular use of drugs and alcohol for multiple years prior to incarceration.

Women are also more likely to be incarcerated for non-violent drug related offenses. In state prisons women were more likely to be held there for drug convictions, and in both state and federal prisons women were more likely to be held for drug trafficking (Bronson and Carson 2019). In jails, women were also more likely to be held there on a drug offense as compared to men (James 2004). These findings showed a clear risk for women to be incarcerated for substance use offenses as compared to men.

Empirical research using this theoretical framework has found that traumatic events similarly affect the drug use of men and women in the short term (Hoffman & Su 1997; Mazerolle 1998). In addition to marijuana use, paternal incarceration is also associated with an increased risk of other illegal drug use (Roettger, Swisher, Kuhl, and Chavez, 2011). Individuals who have experienced maternal incarceration are more likely to engage in substance abuse (Greene, Haney, and Hurtado 2000). However, this research has been unable to control for parents' substance use, nor has it analyzed the potential influence parental incarceration on substance use in early adulthood.

There is also the possibility that parents directly involve their children in their drug Use or do not have rules against drug use in the house. In depth-interviews highlight how some respondents who have experienced parental incarceration have been encouraged to do drugs with, buy drugs for their parents, or live in neighborhoods where drug deals are prevalent (Giordano 2010; Siegel 2011). Siegel (2011) also comments that maternal incarceration was not the catalyst for these children's struggles or family disruptions. Instead it was the mother's prior drug use, and their neighborhood and home environments that expose them to numerous. risks and cumulative disadvantage. Recent work demonstrates those who experience parental incarceration report parental drug Use and lax attitudes about teenage drug use as common occurrences (Giordano, Copp, Manning, and Longmore 2019). In some cases, respondents even say that experiencing jail or incarceration was a good thing for their mothers, and that drugs would have killed them without the incarceration (Siegel 2011).

Children who reside with parents who abuse substances and alcohol are also at risk of negative outcomes such as mental health issues, delinquency, victimization, abuse or neglect, academic issues, and truancy (Altshuler and Cleverly-Thomas 2011; Chassin, Pitts, DeLucia, and

Todd 1999; Dube et al. 2001; Johnson and Leff 1999; McGlade, Ware, and Crawford 2009; West and Prinz 1987). These parents also have trouble consistently securing food, housing, and employment; often experience violence, social isolation and stigma; as well as incarceration (Callaghan, Crimmins, and Schweitzer 2011; McGlade et al., 2009). Parenting behavior is also affected by substance abuse with decreased monitoring, involvement, ineffective or inconsistent discipline, and coercive control (Arria, Mericle, Meyers, and Winters 2012). Recent qualitative work shows that those who experienced parental incarceration also often reported other family disruptions such as parental drug Use (Giordano, et al. 2019). Therefore, it is also possible that substance use is a learned behavior through watching their parent's substance use, or being included in it.

Mental Health Issues and Criminal Justice Contact

In the United States, more individuals with mental health issues are housed in jails and prisons than in mental hospitals (Torrey et al. 2014; Kaeble, Glaze, Tsoutis, and Minton 2016). Compared to the general population, the criminal justice system in the United States has an overrepresentation of individuals suffering from mental health issues (Hodgins 1995; Teplin, Abrams, and McClelland 1996). In the U.S., those with serious. mental health issues comprise roughly 4% of the total population, however, they represent 26% and 14%, respectively, of those in jails or prisons (Pinals and Fuller 2017). Moreover, as of 2014, jails and prisons housed ten times as many individuals with serious. mental illnesses than did state mental hospitals—383,200 vs 38,000 (Kaeble, Glaze, Tsoutis, and Minton 2014; Torrey et al. 2014). One caveat is that mental health issues can go undetected and therefore inmates may be showing signs of a mental illness but have no history of diagnosis (James and Glaze 2006).

There are gender differences in the prevalence of mental health issues in the criminal justice system. Specifically, women who are incarcerated in state and local jails have higher rates of mental health issues as compared to men (James and Glaze 2006; Prins 2014; Teplin et al., 1996). Of women incarcerated in Kentucky, 53% reported anxiety, 62% reported depression, 42% reported suicidal ideation, and 32% percent reported a suicide attempt (Stanton, Leukefeld, and Webster 2003). This disparity also exists among adolescents in the juvenile justice system, with 3/4 of girls and 2/3 of boys meeting the criteria of having a mental health issue (Teplin, Abram, McClelland, Dulcan, and Mericle 2002).

Paternal incarceration is also associated with a significant increase in reported depression, which operated similarly for both boys and girls (Swisher and Roettger 2012). Other researchers have also found that having either a mother or father incarcerated was associated with significantly higher levels of depression (Lee, Fang, and Luo 2013). Individuals who have had a mother incarcerated are also more likely to report PTSD (Kampfner 1995). While this body of research has been able to look at the overall trends, they have been unable to analyze both paternal and maternal incarceration, along with measures of parental depressive symptoms.

Current Study

While the current body of work demonstrates the importance of parental incarceration, this chapter takes an important step forward by disaggregating the effects of maternal and paternal incarceration. The goal of this chapter is to examine the long arm of paternal and maternal incarceration in childhood on early adult outcomes after taking into account traditional parental and adolescent factors that may explain the paternal and maternal incarceration effect. Prior work was unable to disaggregate parental incarceration by gender of the parent while also incorporating prior respondent and parental behaviors associated with criminal activity,

substance use, and depressive symptoms (Greene, et al. 2000; Lee, et al. 2013; Murray and Farrington 2005; Roettger, et al. 2011; Swisher and Roettger 2012). Understanding how paternal and maternal incarceration influence these specific outcomes is imperative as individuals who have higher levels of criminal activity, substance use, and depressive symptoms are more likely to have criminal justice contact.

My first hypothesis is that maternal and paternal incarceration will lead to higher levels of criminal activity, substance use, and depressive symptoms in early adulthood. In an effort to isolate the effects of parental incarceration, I also account for parent's reports of their own experiences with each outcome (deviant behavior, substance use, and depressive symptoms). I anticipated that the effect of paternal and maternal incarceration would be stronger for men than women in regard to criminal activity. Conversely, I expected that parental incarceration would affect women more strongly for the outcomes of substance use and depressive symptoms. I expected parents reports of deviance, substance use, and depressive symptoms would be associated with their children's respective outcomes in early adulthood. In supplemental analyses, I hypothesized that maternal incarceration would be associated with significantly higher reports of criminal activity, substance use, and depressive symptoms. I also expected that maternal incarceration would influence women more so than men.

Data and Methods

Data

I analyzed longitudinal data from the Toledo Adolescent Relationships Study (TARS). TARS is a sample based in Lucas County, Ohio. The 1,321 respondents were selected in 2000 from publicly available records of students in the 7th, 9th, and 11th grade. As opposed to nationally representative school-based samples, such as the Add Health, school attendance was

not required for sample inclusion. The sampling frame of TARS, developed by the National Opinion Research Center, was comprised of 15,188 eligible students separated by race/ethnicity (non-Hispanic White, non-Hispanic Black, and Hispanic), gender, and grade into 18 strata. TARS oversampled Black and Hispanic students. Through random subsamples, TARS selected 2,273 students from each stratum. Of the 2,273 students, TARS contacted 1,625 and had 304 refusals, leaving 81.3% or 1,321 students. To maintain privacy, each respondent filled out an in-home questionnaire and more sensitive topics were answered with a computer-assisted personal interview (CAPI). A parent also completed a survey separately from the adolescent during the first interview. Later waves (waves 4 and 5) were completed on-line.

The current study drew from five waves of data. Interviews for wave 1 began in 2001, wave 2 in 2002/2003, wave 3 in 2004/2005, wave 4 in 2006/2007, and the most recent completed data collection occurred for wave 5 in 2011/2012. In all analyses, I excluded respondents who were missing on key independent variables, such as, parent socioeconomic status., gender, race/ethnicity, family structure, educational attainment, and employment status. (n=290).

For the analyses on an individuals' criminal activity in early adulthood I excluded respondents' who were missing on reports of concentrated disadvantage in their neighborhood at wave 1, criminal activity at both waves 1 and 5, and their parents' reports of deviant behavior, resulting in an analytical sample of 931 respondents. For the analyses predicting substance use in adulthood I excluded those missing on the dependent variable at waves 1 and 5, as well as those missing parents' reports of substance use, resulting in 956 respondents. Lastly, for the analyses of depressive symptoms in adulthood I again excluded respondents with missing reports of depression at waves 1 and 5 as well as parents' depression, resulting in 904 respondents.

Dependent Variables

Criminal activity at wave 5 is a mean scale based on 8 questions in which respondents were asked: "In the last two years (or 24 months), how often have you; (1) stolen (or tried to steal) things worth $5 or less, (2) damaged or destroyed property on purpose, (3) carried a hidden weapon other than a plain pocket knife; (4) stolen (or tried to steal) something worth more than $50; (5) attacked someone with the idea of seriously hurting him/her; (6) sold drugs; (7) broken into a building or vehicle (or tried to break in) to steal something or just to look around; and (8) used drugs to get high (not because they were sick)" (Elliott and Ageton 1980). Responses ranged from (1) "never" to (9) "more than once a day." Higher values indicate more criminal activity.

Substance use at wave 5 is a 7-item mean scale in which respondents were asked, "How often in the past 12 months have you experienced these things because of your drinking/using drugs:" (1) Not felt so good the next day; (2) Felt unable to do your best job at work or school; (3) Hit one of your family members; (4) Gotten into fights with others; (5) Had problems with your friends; (6) Had problems with someone you were dating; and (7) Gotten into a sexual situation that you later regretted. Responses ranged from (1) never to (8) almost daily and higher values reflect more substance use.

Depressive Symptoms at wave 5 is a mean scale based on a 7-item condensed form of the Center for Epidemiological Studies' depressive symptoms scale (CES-D). TARS asked respondents "How often was each of the following true during the past seven days:" (1) You felt you just couldn't get going; (2) You felt that you could not shake off the blues; (3) You had trouble keeping your mind on what you were doing; (4) You felt lonely; (5) You felt sad; (6) You had trouble getting to sleep or staying asleep; and (7) You felt that everything was an effort.

Respondents could choose from (1) never to (8) every day with higher numbers reflecting higher depressive symptoms.

Independent Variables

Paternal Incarceration is a dichotomous and official measure indicating whether the respondent's father had been incarcerated by their 13th birthday. If respondents had a father incarcerated by age 13 they were coded as 1; otherwise they were coded as 0.

Maternal Incarceration is also a dichotomous and official measure indicating whether the respondent's mother had been incarcerated by their 13th birthday. If respondents had a mother incarcerated by age 13 they were coded as 1; otherwise they were coded as 0. These measures of paternal and maternal incarceration are not mutually exclusive.

No Parent Incarcerated is a dichotomous and official measure indicating the respondent did not have a mother or father incarcerated by age 13. A 1 indicated the respondent never had a parent incarcerated by their 13th birthday, whereas a 0 indicated the respondent had either a mother or father incarcerated. This variable is used in analyses for which respondents who had a mother incarcerated is the reference group.

Female, measured as a binary variable, indicated whether the respondent reported their sex was female at wave 1. *Two Biological Parents,* from the parent questionnaire during the first interview, compared two biological parent households versus every other family structure (step families, single parent families, living alone, etc.). *Academic performance* was measured at the first interview and assesses respondent's grades. During the first interview, TARS asked respondents to report the school grades they were getting that year from (1) "mostly F's" to (9) "mostly A's." Higher values indicate better academic performance.

Educational Attainment at wave 5 measures the respondent's highest level of education. Respondents were asked how far they had gone in school: (1) dropped out of high school; (2) currently in high school; (3) graduated from high school/earned GED; (4) certificate or specialized training program; (5) currently in community college; (6) currently in four-year college; (7) some college, but not currently attending; (8) graduated from college with Associate or junior college degree; graduated from college with Bachelor's degree; or (10) graduate or professional school. 1 indicates the respondent did not have a high school degree, 2 indicates the respondent has a high school degree, 3 indicates some college, and a 4 indicates a bachelor's degree or more.

Full-Time Employment at wave 5 is measure indicating whether the respondent had a full-time job at wave 5. Respondents were first asked if they were currently working for pay at least 10 hours a week. They were then asked if their current job was full-time or part-time. Respondents who reported they were currently working full-time were coded as 1; otherwise they were coded as 0.

Wave 1 Delinquency is a mean scale and was measured at the first interview and respondents were asked 8 questions: "In the last two years (or 24 months), how often have you (1) stolen (or tried to steal) things worth $5 or less; (2) damaged or destroyed property on purpose; (3) carried a hidden weapon other than a plain pocket knife; (4) stolen (or tried to steal) something worth more than $50; (5) attacked someone with the idea of seriously hurting him/her; (6) sold drugs; (7) broken into a building or vehicle (or tried to break in) to steal something or just to look around; and (8) used drugs to get high (not because they were sick)" (Elliott and Ageton 1980). Responses ranged from (1) "never" to (9) "more than once a day."

Wave 1 Substance use was also measured at wave 1 and is a 7-item mean scale in which respondents were asked, "How often in the past 12 months have you experienced these things because of your drinking/using drugs:" (1) Not felt so good the next day; (2) Felt unable to do your best job at work or school; (3) Hit one of your family members; (4) Gotten into fights with others; (5) Had problems with your friends; (6) Had problems with someone you were dating; and (7) Gotten into a sexual situation that you later regretted. Responses ranged from (1) never to (8) almost daily.

Wave 1 Depressive Symptoms was measured at the first interview and is a mean scale. TARS asked respondents: "How often was each of the following true during the past seven days:" (1) You felt you just couldn't get going; (2) You felt that you could not shake off the blues; (3) You had trouble keeping your mind on what you were doing; (4) You felt lonely; (5) You felt sad; (6) You had trouble getting to sleep or staying asleep; and (7) You felt that everything was an effort. Respondents could choose from (1) never to (8) every day with higher numbers reflecting higher depressive symptoms.

Parental Education was measured at the wave 1 parent questionnaire and reported by their mother or father. Reporting parents were asked how far they went in school. Parents could choose from (1) 1st-8th grade; (2) less than 12 years; (3) 12 years (or obtained GED); (4) went to business, trade or vocational school after high school; (5) 1-3 years of college; (6) graduated from a college or university; (7) Obtained professional training beyond a 4-year college or university. Parents who reported their educational levels as (1) or (2) were coded as 1, those who reported a (3) were coded as 2, those who reported (4) or (5) were coded as 3, and those who reported (6) or (7) were coded as 4.

Parents' deviance is a mean scale and assessed by the wave 1 parent questionnaire. Parents were asked during the past year how often they (1) used alcohol to get drunk; (2) gone out to party with your spouse or partner; (3) gone out to party with friends; and (4) used drugs to get high (not because you were sick). Responses ranged from 1) never to 8) almost daily, and higher values reflects more deviance.

Parents' substance use is a mean scale and a subset of measures from the parent's deviance measures. The parents were asked how often in the last year how often they (1) used alcohol to get drunk; and (2) used drugs to get high (not because you were sick). Responses ranged from 1) never to 8) almost daily. Higher values reflect more substance use.

Parents' depressive symptoms is a mean scale and was measured at the first interview in the parent questionnaire, with parents' asked: "How often was each of the following true during the past seven days:" (1) You felt you just couldn't get going; (2) You felt that you could not shake off the blues; (3) You had trouble keeping your mind on what you were doing; (4) You felt lonely; (5) You felt sad; (6) You had trouble getting to sleep or staying asleep; and (7) You felt that everything was an effort. Respondents could choose from (1) never to (8) every day with higher numbers reflecting higher depressive symptoms.

Analytic Strategy

I used linear regression models to estimate how parental incarceration influenced the respondent's criminal activity, substance use, and depressive symptoms in early adulthood. Tables 5-7 showed the descriptive results for the analyses predicting the respondents' delinquency, substance use, and depressive symptoms. Then in Tables 8, 9, and 10, I provided the linear regressions of respondents' reports of wave 5 criminal activity, substance use, and depressive symptoms, respectively. Table 11 provided supplemental analyses in which maternal

incarceration is the reference category, thus, allowing me to compare the relative roles of maternal and paternal incarceration.

I first estimated the baseline effects of each independent covariate in the analyses to report how they influenced respondents' early adult outcomes (*Zero-Order*). I then estimated the effects of maternal and paternal incarceration, while controlling for important demographic controls associated with parental incarceration and the outcome (*Model 1*). This was followed by the inclusion of the respondents' wave 5 reports of educational attainment and full-time employment status (*Model 2*). Then I controlled for the wave 1 outcome (either criminal activity, substance use, or depressive symptoms), as well as the relevant parental behavior controls of deviant behavior, substance use, and depressive symptoms (*Model 3*). Lastly, I included the interactions between gender of the respondent and paternal and maternal incarceration to analyze whether the effects of each were stronger for men or women (*Model 4*).

Descriptive Results

Across all the analyses (criminal activity, substance use, and depressive symptoms) roughly 16% of the sample had a father incarcerated and 7% had a mother incarcerated by age 13. Table 5 provided the descriptive results for the criminal activity analyses. Respondents who had a mother incarcerated reported the highest levels of criminal activity in adulthood, followed by those who had a father incarcerated. Table 6 provided the descriptive results for the substance use in adulthood analyses. Again, respondents who had a mother incarcerated reported the highest levels of substance use in adulthood. Table 7 showed the descriptive results for depressive symptoms and respondents who had a mother incarcerated also reported the highest levels of depressive symptoms. Across all three tables, respondents who had a mother incarcerated also reported the lowest levels of living in a two-biological parent household,

parental education, respondent educational attainment, and full-time employment. Respondents with maternal incarceration also reported higher levels of parents' substance use and parents' depressive symptoms. Respondents with paternal incarceration generally fell in between those with no parental incarceration and those with a mother incarcerated.

Multivariate Results

Criminal Activity

I first analyzed how parental incarceration by age 13 may influence the respondents reported criminal behavior in young adulthood, and the results are reported in Table 8. The zero-order results indicated that respondents who had experienced maternal incarceration during their childhood reported significantly higher criminal activity in young adulthood. These zero-order results also indicated paternal incarceration has no significant association with criminal activity in early adulthood. Model 1 includes measures of family background (e.g., family structure, parents' socioeconomic status, and concentrated disadvantage), as well as controls for the respondent's gender and race/ethnicity to assess the degree to which the association between parental incarceration and criminal activity may be driven by these pre-existing or contemporaneous disadvantages. When introduced, each of these background factors mitigated the statistical significance of maternal incarceration. This suggests that the association of maternal incarceration with later criminal activity is largely accounted for by the pre-existing disadvantages associated with maternal incarceration.

Women in the sample and those who grew up in a two-biological parent household reported significantly less criminal activity at wave 5, which matches with prior research. Model 3 demonstrated that respondents who had higher levels of educational attainment and had a full-time job in young adulthood reported significantly lower levels of criminal activity. Then in model 4 I included measures of the respondents' and their parents' reports of deviant behavior. The results indicated that the respondents' adolescent delinquency was related to their criminal activity in young adulthood. Furthermore, there was no evidence for social learning theory as parental deviance was not significantly associated with higher levels of criminal activity in early adulthood. To assess how paternal and maternal incarceration may influence early adulthood criminal activity differently for men and women I included gender interactions in model 5. The results showed there is no gendered effect of maternal or parental incarceration on criminal activity.

Substance Use

In table 9 I then analyzed how parental incarceration may influence substance use in early adulthood. The zero-order results indicated that maternal incarceration was associated with significantly higher substance use in early adulthood. This model also showed paternal incarceration was not significantly related to substance use in early adulthood. I then controlled for important covariates associated with levels of delinquency, and despite these controls the significance of maternal incarceration remains. Women, as compared to men, also reported significantly lower levels of substance use in early adulthood. In model 2 I added controls for respondents' educational attainment and full-time employment and the significance of maternal incarceration remained. Respondents with higher levels of educational attainment and full-time employment did not report significantly higher levels of substance use in early adulthood.

In model 3 I controlled for both the respondent's reported substance use at wave 1 and the substance use reported by one of their parents at wave 1 to account for respondents' prior behaviors and potential social learning processes. Neither of these measures were significantly related to the respondent's substance use in young adulthood. Furthermore, net of all other covariates, respondents' who had a mother incarcerated reported significantly higher substance use in young adulthood as compared to those without a parent incarcerated. Model 4 introduced interaction terms to analyze whether there were gender differences in the effects of maternal and paternal incarceration on substance use . The non-significance of the coefficients suggests no gender differences in the associations of parental incarceration with substance use.

Depressive Symptoms

In table 10 I next I analyzed whether paternal or maternal incarcerations were associated with depressive symptoms in early adulthood. The zero-order results showed that respondents with maternal incarceration reported significantly higher levels of depressive symptoms. Similar to the prior two analyses, paternal incarceration was not associated with higher levels of depressive symptoms. Once I controlled for the respondent's demographics the significance of maternal incarceration was attenuated. Individually, the respondents' family structure, neighborhood disadvantage at wave 1, and race/ethnicity attenuated the significance of maternal incarceration. Results show that living in a two-biological parent household was associated with lower levels of depressive symptoms in young adulthood. Black respondents reported significantly higher levels of depressive symptoms in early adulthood as compared to white respondents.

Model 2 demonstrated that socioeconomic status, measured by educational attainment and full-time employment, is associated with significantly less depressive symptoms. I next accounted for the respondent's depressive symptoms at wave 1, as well as parent's depression. Depressive symptoms in adolescence were significantly and positively associated with depressive symptoms in young adulthood. Parent's depressive symptoms were only marginally associated with the respondent's depressive symptoms at wave 5. It should be noted that I also included parent's deviant behavior and it was not significantly related to depressive symptoms. Neither parent's depressive symptoms nor deviant behavior was associated with the respondent's depressive symptoms at wave 5. Model 5 incorporated the gender interactions and there were no significant differences in the associations between maternal and paternal incarceration and early adult depressive symptoms.

Maternal Incarceration as Reference Multivariate Results

Another pertinent question regarding parental incarceration is whether the consequences may be worse depending on whether it was the mother or the father incarcerated. Therefore, in table 11 these analyses I switched the reference category from no parents incarcerated to maternal incarceration. The results for delinquency showed no significant differences whether it was the mother or father incarcerated. This was true overall and for the gender interactions. Substance use analyses showed that paternal incarceration was associated with significantly less substance use in adulthood compared to respondents with maternal incarceration. There were no gender interactions. Adult depressive symptoms were significantly less among respondents who had a father incarcerated as compared to mothers. The gender interactions showed that, women who had a father incarcerated by their 13th birthday reported significantly less depressive symptoms than did their male counterparts.

Discussion

Parental incarceration is associated with negative educational, economic, health, and behavioral outcomes (Hagan, et al. 2020; Wildeman 2014; Wildeman and Turney 2014). Understanding how parental incarceration influences outcomes such as delinquency, substance use, and depressive symptoms is important because they are all associated with an increased risk of criminal justice contact (Bronson et al. 2017; Pinals and Fuller 2017). The results from this chapter have important implications for our understanding of the potential long reach of parental incarceration on outcomes in adulthood.

My first hypothesis was that paternal and maternal incarceration would be associated with higher delinquency, substance use, and depressive symptoms in early adulthood; this was only partially supported. Paternal incarceration was not associated with any of the 3 outcomes. Maternal incarceration was associated with higher delinquency in early adulthood until I controlled for the demographic factors of family structure, parental education, concentrated disadvantage, and race/ethnicity. Despite controlling for respondents' prior substance use and their parents' substance use, respondents who had a mother incarcerated had significantly higher substance use compared to those with no parent incarcerated. Furthermore, the significance of maternal incarceration for depressive symptoms in early adulthood was mitigated by demographic controls.

Therefore, the only significant influence of maternal incarceration was in the case of substance use in early adulthood. One reason paternal incarceration was not associated with respondent's criminal activity or depressive symptoms in early adulthood could be because it influences these outcomes in *adolescence*. Paternal incarceration may increase their children's criminal activity and depressive symptoms shortly after the incarceration. These adolescent

measures were significantly related to their adulthood outcomes; therefore, paternal incarceration may influence adulthood reports of criminal activity and depressive symptoms through their adolescent measures. In regard to substance use, very few of the indicators, besides gender, were significantly associated with substance use in adulthood. Paternal incarceration may not influence substance use because these fathers were already less likely to be living with their children, leading to less exposure of paternal criminal activity.

The supplemental analyses allowed me to assess whether the effects of parental incarceration on early adulthood outcomes differed by the gender of the parent incarcerated. There were no significant differences between paternal and maternal incarceration with regard to criminal activity in early adulthood. As anticipated, those who had a mother incarcerated reported higher levels of substance use in early adulthood, as compared to those with a father incarcerated. Paternal incarceration, as compared to maternal incarceration, influenced criminal activity and substance use similarly for both men and women.

In the case of depressive symptoms, respondents who had a father incarcerated reported significantly less depressive symptoms in early adulthood, compared to those with maternal incarceration. There were also gender differences in regard to the effects of maternal and paternal incarceration on depressive symptoms in early adulthood. Women who had a father incarcerated by age 13 reported significantly fewer depressive symptoms as compared to men with a father incarcerated. These results suggest that paternal incarceration influences the internalization of strain more for men, and thus, the mental health of men may be affected more by paternal incarceration as compared to women. This is also an important finding because it illustrates that men are also likely to internalize strain.

The results were stronger for these analyses with maternal incarceration as the reference, illustrating how imperative it is to differentiate between maternal and paternal incarceration while also comparing them to each other. Furthermore, these results lend insight to how parental incarceration influences internalization of strain for men. The comparisons demonstrate how maternal incarceration may be more influential on negative behavioral outcomes as compared to paternal incarceration. My hypotheses regarding gender differences in the associations of paternal and maternal incarceration on reported criminal activity, substance use, and depressive symptoms were not supported. This indicates that parental incarceration influences the externalizing of strain through substance use similarly for men and women. These results are important as they imply there may not be as many gender differences in regards to strain as previously assumed.

While these analyses expand on our understanding of how parental incarceration influences criminal activity, substance use, and depressive symptoms in early adulthood there are a number of limitations to note. First and foremost, I did not include measures of child neglect, abuse, or victimization, which are associated with delinquency, substance use, and depressive symptoms (Chesney-Lind 2000; Greene, Haney, and Hurtado, 2000; Salisbury and Van Voorhis 2009). Therefore, the significance of maternal incarceration on substance use may be mitigated by neglect and/or abuse. Additionally, I only use official measures of paternal and maternal incarceration, meaning those that were not publicly available may not have been located. I also do not account for respondent's who had both parents incarcerated, and future work needs to consider these individual's as they may be the most affected. Furthermore, this is not a nationally representative sample, so the associations may not be generalizable to other contexts of the United States as a whole. I also only consider the long-term reach of parental incarceration on

these outcomes, but more work needs to focus on the potential immediate behavioral and emotional outcomes.

These results have important policy implications that can be used to alleviate the consequences parental incarceration can have on the early adulthood outcomes of their children. First, there needs to be more funding into substance abuse programs as well as shifting the focus onto reform as opposed to punishment. As opposed to jail or prison time for non-violent drug offenses, our legal system should emphasize rehabilitation. The supplemental results indicated that as compared to paternal incarceration, maternal incarceration was associated with significantly higher reports of depressive symptoms. Therefore, policies should also focus on the mental health implications of maternal incarceration and perhaps provide resources for these children. The jail and prison system in the United States houses more individual than psychiatric hospitals (Torrey et al. 2010; Torrey et al. 2014). Both parents and their children who have had contact with the criminal justice system are more likely to be suffering from substance use and mental health issues. Therefore, by creating more resources and help for individuals suffering from mental health and substance use issues, we may be able to decrease both the number of parents and their children who end up having criminal justice contact.

Table 5. Descriptive Characteristics of the Criminal Activity Analytic Sample

	Overall		Paternal		Maternal	
Variables	% or M	SD	% or M	SD	% or M	SD
Delinquency Wave 5 Min=0; Max=4;	0.18	0.44	0.20	0.41	0.29	0.63
Paternal Incarceration by Age 13						
Paternal Incarceration	16.11				34.38	
Maternal Incarceration	6.87		14.67			
No Parental Incarceration	77.01					
Controls						
Delinquency Wave 1 Min=1; Max 7;	0.18	0.51	0.25	0.59	0.23	0.47
Gender						
Female	54.35		48.00		56.25	
(Male)	45.65		52.00		43.75	
Family Structure						
Two Biological Parent Household	56.39		36.00		15.63	
(All other family structures)	43.61		64.00		84.38	
Parental Education Min=1; Max=4;	2.72	0.95	2.43	0.91	2.28	0.79
Concentrated Disadvantage Min=-7.2; Max=16.5;	-1.70	4.26	-0.07	4.90	2.50	5.41
Race/ethnicity						
Black	21.05		29.33		53.13	
Hispanic	10.63		22.67		12.50	
(White)	68.31		48.00		34.38	
Economic Controls						
Educational Attainment Min=1; Max=4;	2.94	0.89	2.54	0.88	2.13	0.93
Employment						
Full-Time Employment	54.46		50.67		34.38	
(Not Employed Full-Time)	45.54		49.33		65.63	
Parent Controls						
Parents' Deviance Min=0; Max=6.25;	0.89	0.88	0.91	0.96	0.91	1.01
N	931		150		64	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

Table 6. Descriptive Characteristics of the Substance Use Analytic Sample

	Overall		Paternal		Maternal	
Variables	% or M	SD	% or M	SD	% or M	SD
Substance Use Wave 5	0.17	0.47	0.13	0.23	0.40	1.15
Min=0; Max=7;						
Parental Incarceration by Age 13						
Paternal Incarceration	16.32				33.33	
Maternal Incarceration	7.22		14.74			
No Parental Incarceration	76.46					
Controls						
Substance Use Wave 1	0.12	0.39	0.19	0.49	0.16	0.40
Min=0; Max=3.54;						
Gender						
Female	54.08		48.08		56.52	
(Male)	45.92		51.92		43.48	
Family Structure						
Two Biological Parent Household	55.54		37.18		15.94	
(All other family structures)	44.46		62.82		84.06	
Parental Education	2.72	0.95	2.45	0.94	2.23	0.79
Min=1; Max=4						
Concentrated Disadvantage	-1.67	4.27	-0.02	4.90	2.52	5.22
Min=-7.2; Max=16.5;						
Race/ethnicity						
Black	21.34		30.13		53.62	
Hispanic	10.88		23.08		14.49	
(White)	67.78		46.79		31.88	
Economic Controls						
Educational Attainment	2.93	0.90	2.55	0.87	2.14	0.93
Min=1; Max=4;						
Employment						
Full-Time Employment	54.39		50.00		33.33	
(Not Employed Full-Time)	45.61		50.00		66.67	
Parent Controls						
Parents' Substance Use	0.48	0.92	0.64	1.15	0.66	1.31
Min=0; Max=7;						
N	956		156		69	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

Table 7. Descriptive Characteristics of the Depressive Symptoms Analytic Sample

	Overall		Paternal		Maternal	
Variables	% or M	SD	% or M	SD	% or M	SD
Depression Wave 5 Min=0; Max=7;	1.40	1.30	1.39	1.20	1.85	1.76
Parental Incarceration by Age 13						
Paternal Incarceration	15.80				33.87	
Maternal Incarceration	6.85		14.69			
No Parental Incarceration	77.35					
Depression Wave 1 Min=0; Max=6.43;	1.31	1.15	1.33	1.14	1.14	1.18
Controls						
Gender						
Female	54.03		47.55		56.45	
(Male)	45.97		52.45		43.55	
Family Structure						
Two Biological Parent Household	56.13		34.97		14.52	
(All other family structures)			65.03		85.48	
Parental Education Min=1; Max=4;	2.73	0.95	2.45	0.91	2.34	0.79
Race/ethnicity						
Black	20.66		29.37		56.45	
Hispanic	10.50		21.68		11.29	
(White)	68.84		48.95		32.26	
Concentrated Disadvantage Min=-7.2; Max=16.5;	-1.78	4.23	-0.22	4.95	2.41	5.52
Economic Controls						
Educational Attainment Min=1; Max=4;	2.94	0.89	2.54	0.86	2.18	0.93
Full-Time Employment	54.70		50.35		30.65	
Employment						
(Not Employed Full-Time)	45.30		49.65		69.35	
Parent Controls						
Parents' Depression Min=1; Max=7;	1.07	1.25	1.27	1.52	1.39	1.63
Parents' Deviance Min=0; Max=6.25;	0.91	0.89	0.93	0.97	0.91	1.02
N	904		143		62	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

Table 8. OLS Regression Coefficients of Criminal Activity at Wave 5

Variables	Zero-Order		Model 1		Model 2		Model 3		Model 4	
Parental Incarceration by Age 13	B (SE)		B (SE)		B (SE)		B (SE)		B (SE)	
Paternal Incarceration	0.02 (0.04)		-0.01 (0.04)		-0.02 (0.04)		-0.02 (0.04)		-0.08 (0.05)	
Maternal Incarceration	0.11 (0.06)	*	0.09 (0.06)		0.07 (0.06)		0.07 (0.06)		0.12 (0.09)	
(No Parental Incarceration)										
Controls										
Gender										
Female	-0.17 (0.03)	***	-0.18 (0.03)	***	-0.18 (0.03)	***	-0.17 (0.03)	***	-0.18 (0.03)	***
(Male)										
Family Structure										
Two Biological Parent Household	-0.07 (0.03)	*	-0.07 (0.03)	*	-0.06 (0.03)	*	-0.06 (0.03)	*	-0.07 (0.03)	*
(All other family structures)										
Parental Education	-0.01 (0.02)		0.00 (0.02)		0.01 (0.02)		0.01 (0.02)		0.01 (0.02)	
Concentrated Disadvantage	0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)	
Race/Ethnicity										
Black	0.04 (0.04)		0.02 (0.04)		0.01 (0.05)		0.01 (0.05)		0.02 (0.04)	
Hispanic	0.03 (0.05)		0.02 (0.05)		0.01 (0.05)		0.01 (0.05)		-0.01 (0.05)	
(White)										
Economic Controls										
Educational Attainment	-0.05 (0.02)	**			-0.03 (0.03)		-0.02 (0.02)		-0.02 (0.02)	
Employment										
Full-Time Employment	-0.08 (0.03)	**			-0.08 (0.03)	**	-0.08 (0.03)	**	-0.08 (0.03)	**
(Not Employed Full-Time)										
Prior Deviance										
Delinquency Wave 1	0.15 (0.03)	***					0.13 (0.03)	***	0.13 (0.03)	***
Parents' Deviance	0.00 (0.02)						-0.01 (0.02)		-0.01 (0.02)	
Interactions										
Female*Paternal Incarceration	0.11 (0.08)								0.11 (0.08)	
Female*Maternal Incarceration	-0.13 (0.11)								-0.09 (0.11)	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001

n=931

Table 9. OLS Regression Coefficients of Substance Use at Wave 5

Variables	Zero-Order			Model 1			Model 2			Model 3			Model 4		
Parental Incarceration by Age 13	B	(SE)		B	(SE)		B	(SE)		B	(SE)		B	(SE)	
Paternal Incarceration	-0.06	(0.04)	†	-0.07	(0.04)		-0.07	(0.04)		-0.08	(0.04)	†	-0.12	(0.06)	*
Maternal Incarceration	0.27	(0.06)	***	0.26	(0.06)	***	0.25	(0.06)	***	0.25	(0.06)	***	0.25	(0.10)	**
(No Parental Incarceration)															
Controls															
Gender															
Female	-0.09	(0.03)	**	-0.09	(0.03)	**	-0.10	(0.03)	**	-0.09	(0.03)	**	-0.11	(0.03)	**
(Male)															
Family Structure															
Two Biological Parent Household	-0.05	(0.03)		-0.04	(0.03)		-0.03	(0.03)		-0.03	(0.03)		-0.03	(0.03)	
(All Other Family Structures)															
Concentrated Disadvantage	0.00	(0.00)		0.02	(0.02)		0.03	(0.02)		0.00	(0.00)		0.00	(0.00)	
Parental Education	0.01	(0.02)		0.00	(0.00)		0.00	(0.00)		0.03	(0.02)		0.03	(0.02)	
Race/Ethnicity															
Black	0.05	(0.04)		0.03	(0.05)		0.02	(0.05)		0.02	(0.05)		0.02	(0.05)	
Hispanic	-0.01	(0.05)		0.01	(0.05)		0.00	(0.05)		0.00	(0.05)		0.00	(0.05)	
(White)															
Economic Controls															
Educational Attainment	-0.04	(0.02)	*				-0.03	(0.02)		-0.03	(0.02)		-0.03	(0.02)	
Employment															
Full-Time Employment	-0.06	(0.03)	*				-0.05	(0.03)	†	-0.05	(0.03)	†	-0.05	(0.03)	
(Not Employed Full-Time)															
Prior Substance Use															
Substance Use Wave 1	0.05	(0.04)								0.03	(0.04)		0.03	(0.04)	
Parents' Substance Use	0.00	(0.02)								0.00	(0.02)		0.00	(0.02)	
Interactions															
Female*Paternal Incarceration	0.09	(0.08)											0.09	(0.08)	
Female*Maternal Incarceration	-0.01	(0.12)											0.00	(0.12)	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001

n=956

Table 10. OLS Regression Coefficients of Depressive Symptoms at Wave 5

Variables	Zero-Order			Model 1			Model 2			Model 3			Model 4		
Parental Incarceration by Age 13	B	(SE)		B	(SE)		B	(SE)		B	(SE)		B	(SE)	
Paternal Incarceration	-0.06	(0.12)		-0.14	(0.12)		-0.17	(0.12)		-0.18	(0.12)		-0.01	0.16	
Maternal Incarceration	0.49	(0.17)	**	0.27	(0.18)		0.16	(0.18)		0.23	(0.17)		0.09	0.26	
(No Parental Incarceration)															
Controls															
Gender															
Female	0.08	(0.08)		0.06	(0.09)		0.05	(0.09)		0.01	(0.08)		0.04	0.09	
(Male)															
Family Structure															
Two Biological Parent Household	-0.24	(0.08)	**	-0.19	(0.09)	*	-0.12	(0.09)		-0.07	(0.09)		-0.08	0.09	
(All other family structures)															
Parental Education	-0.10	(0.04)	*	-0.05	(0.05)		0.00	(0.05)		0.01	(0.05)		0.01	0.05	
Concentrated Disadvantage	0.03	(0.01)	**	0.00	(0.01)		-0.02	(0.01)		-0.01	(0.01)		-0.01	0.01	
Race/Ethnicity															
Black	0.40	(0.10)	***	0.35	(0.14)	*	0.34	(0.14)	*	0.30	(0.13)	*	0.30	0.13	*
Hispanic	0.13	(0.13)		0.05	(0.15)		0.00	(0.15)		-0.02	(0.15)		-0.02	0.15	
(White)															
Economic Controls															
Educational Attainment	-0.25	(0.05)	***				-0.20	(0.06)	***	-0.18	(0.05)	***	-0.18	0.05	***
Employment															
Full-Time Employment	-0.47	(0.08)	***				-0.31	(0.09)	***	-0.29	(0.09)	***	-0.29	0.09	***
(Not Employed Full-Time)															
Prior Depression															
Depression Wave 1	0.28	(0.04)								0.25	(0.04)	***	0.26	0.04	***
Parents' Depression	0.10	(0.03)	**							0.06	(0.03)	†	0.06	0.03	†
Interactions															
Female*Paternal Incarceration	-0.29	(0.22)											-0.34	0.23	
Female*Maternal Incarceration	0.08	(0.32)											0.24	0.33	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001

n=956

Table 11. OLS Regression Coefficients of Criminal Activity, Substance Use, and Depressive Symptoms at Wave 5 with Maternal Incarceration as the Reference

	Criminal Activity		Substance Use		Depressive Symptoms	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Parental Incarceration						
Paternal Incarceration by age 13	-0.08 (0.08)	-0.24 (0.12) *	-0.41 (0.08) ***	-0.51 (0.12) ***	-0.6 (0.22) **	0.08 (0.35)
No Parent Incarcerated by age 13 (Maternal Incarceration by age 13)	-0.07 (0.07)	-0.19 (0.11) †	-0.39 (0.08) ***	-0.44 (0.12) ***	-0.5 (0.21) *	0.07 (0.33)
Prior Behaviors						
Delinquency Wave 1	0.13 (0.03) ***	0.13 (0.03) ***				
Parents' Deviance	-0.01 (0.02)	-0.01 (0.02)				
Wave 1 Substance use			0.03 (0.04)	0.03 (0.04)		
Parents' Substance Use			0.00 (0.02)	0.00 (0.02)		
Wave 1 Depression					0.25 (0.04) ***	0.25 (0.04) ***
Parents' Depression					0.06 (0.03) †	0.06 (0.03) †
Interactions						
Female*Paternal		0.27 (0.15) †		0.17 (0.16)		-1.12 (0.45) *
Female*No Parent		0.18 (0.14)		0.08 (0.14)		-0.84 (0.41) *

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses. All models control for gender, family structure, parental education, concentrated disadvantage, race/ethnicity, educational attainment, and full-time employment

† p < .1. *p <.05. **p<.01. ***p<.001

n=931 n=956 n=904

CHAPTER IV. INTERGENERATIONAL TRANSMISSION OF CRIMINAL JUSTICE CONTACT

Mass incarceration in the United States was coupled with an increase in children who experienced parental incarceration (Pettit 2012; Siegel 2011). There is ample evidence that both paternal and maternal incarceration have been linked to their children's criminal justice contact (Burgess-Proctor, Huebner, and Dorso 2016; Huebner and Gustafson 2007; Muftić, Bouffard, and Armstrong 2015) and to other factors often leading to criminal justice contact such as children's mental health issues, educational difficulties, and lower economic standing (Hagan, Foster, and Murphy 2020; Wildeman 2014; Wildeman and Turney 2014). While this research has established that patterns of intergenerational continuity in criminal justice contact exists, there has been limited attention to the mechanisms underlying these intergenerational patterns and often has not included the maternal incarceration experience.

As growing shares of women enter the criminal justice system (Carson 2020), a new stream of research has considered maternal and paternal incarceration. Scholars have called attention to the debate regarding whether the association of parental incarceration on their children's outcomes is stronger for mothers or fathers. For example, paternal, and not maternal, incarceration was associated with child behavior problems and an increased probability of homelessness (Wildeman 2014; Wildeman and Turney 2014). In contrast, only maternal incarceration was associated with mental health issues, sex trade involvement, experiencing a second arrest, and violence in prison (Nebbitt, Tirmazi, Lombe, Cryer-Coupet, and French 2014; Novero, Booker Loper, and Warren 2011; Tasca, Rodriguez, and Zatz 2011; Tasca, Turnovic, White, and Rodriguez 2014). These mixed findings suggest there are still more unanswered

questions regarding gender of the parent incarcerated and the intergenerational transmission of criminal justice contact.

While the basic associations have been reported between parental incarceration and children's criminal justice involvement, there are other potential factors that may underlie these associations. In particular, little attention has been paid to the degree to which parental incarceration has a unique effect on their child's outcomes, once accounting for parental behavioral profiles (antisocial behaviors, substance use) and childhood experiences. There is some research arguing that paternal incarceration itself may not be detrimental, and instead it is the behaviors preceding incarceration or the fact that fathers were less likely to be the primary caretaker of their children (Glaze and Maruschak 2008). Researchers have raised similar questions regarding maternal incarceration. Because mothers who have been incarcerated are likely to have histories of economic disadvantage and antisocial behavior, perhaps the incarceration itself isn't the determining factor (Giordano 2010; Siegel 2011). Prior research has also compared the influences of paternal and maternal incarceration while also controlling for behavioral and contextual factors.

In this chapter, I analyzed the Toledo Adolescent Relationships Study (TARS) to expand our understanding of whether the intergenerational transmission of criminal justice contact is influenced differently by paternal or maternal incarceration. Despite the abundance of research on the consequences of parental incarceration there are still many questions regarding the true mechanisms behind the intergenerational transmission of criminal justice contact. To isolate the association of parental incarceration and their children's criminal justice contact I estimated models that included indicators of paternal and maternal incarceration along with key parental economic and behavioral factors and childhood experiences. I also analyzed whether paternal or

maternal incarceration had a larger influence on the odds of arrest and jail for women as compared to men. This chapter provided a more nuanced understanding of the intergenerational transmission of criminal justice contact.

This chapter expands prior literature in a few ways. First, I include two criminal justice contact outcomes: arrest, which involves a more diverse population and a range of behaviors, and incarceration, which is associated with more serious offenses. Furthermore, the analyses specifically identify paternal and maternal incarceration as opposed to an overall measure of parental incarceration. This chapter also expands prior work because much of the analyses regarding parental incarceration are in comparison to no parental incarceration, and have not been able to account for varying factors associated with the intergenerational transmission of criminal justice contact. Finally, this chapter addresses the nuances of parental incarceration by comparing respondents with paternal incarceration to those with maternal incarceration.

Paternal Incarceration

Because there are significantly more men incarcerated than women, children are more likely to have a father incarcerated than a mother, and as of 2007 there were about 744,200 fathers in United States prisons (Glaze and Maruschak 2008). Research has demonstrated that paternal incarceration is detrimental to their children, and the consequences can be both immediate and lasting (Geller et al., 2011; Hagan and Foster 2012; Hairston 1995; Johnson 2009). Immediately, paternal incarceration is associated with significantly lower financial contributions from fathers to their families (Geller et al., 2011; Hairston 1995; Johnson 2009). Furthermore, once a father is removed from the home via incarceration children may experience neglect and harsh parenting from other caretakers (Turney 2014). Individuals who experience paternal incarceration in childhood are also significantly more likely to have an increase in

problematic and aggressive behaviors (Geller, Garfinkel, and Cooper, and Mincy, 2009; Wildeman 2010).

Paternal incarceration is also associated with long-term consequences. In particular, paternal incarceration is associated with significantly lower educational attainment (Hagan and Foster 2009), lower high school GPA, and lower odds of graduating college (Hagan and Foster 2012). Moreover, individuals facing both paternal incarceration and neighborhood disadvantage are at an increased risk of lower educational outcomes (Hagan et al. 2020). Research also demonstrates that both lower economic and educational standings are associated with increased risk of criminal justice contact (Pettit and Western 2004). Therefore, these individuals who had a father incarcerated may have lower educational attainment, and thus, are at an increased risk of their own criminal justice contact.

Having a father incarcerated is also directly associated with deviant behavior. Research shows those who had a father incarcerated reported significantly more illegal drug use (Roettger, Swisher, Kuhl, and Chavez, 2011). Other research indicates that paternal incarceration is associated with an increase in men's antisocial and delinquent behaviors (Murray and Farrington 2005). Scholars also found that boys who had a parent incarcerated had more antisocial behavior from when they were 14-48 (Murray and Farrington 2008). Paternal incarceration is also associated with an increased risk of criminal justice contact (Burgess-Proctor et al. 2016; Roettger and Swisher 2011). Therefore, through economic or educational consequences, as well as deviant behavior paternal incarceration is likely to influence the intergenerational transmission of criminal justice contact.

This body of work makes important contributions but there are at least two key shortcomings: 1) this research does not directly address the role of maternal incarceration and 2)

focuses solely on criminal justice contact rather than parental deviant behavior. Below I review research on these topics and propose a more comprehensive approach to understand how parental incarceration matters.

Maternal Incarceration

While paternal incarceration is more prevalent, women who are incarcerated are also more likely to have been the primary caretakers of their minor children compared to men (Glaze and Maruschak 2008). When women are incarcerated their children are more likely to go live with their grandparents or other relatives, while when fathers are incarcerated their children are more likely to live with their mothers (Glaze and Maruschak 2008; Johnson and Waldfogel 2004). Maternal incarceration has also been linked to a 40% increase in foster care admissions between 1985 and 2000 (Swann and Sylvester 2006). Research has shown that changes in the primary caregiver are associated with an increase in deviant behavior (Graham, Harris, and Carpenter 2010). Taken together, this research has suggested that maternal, compared to paternal, incarceration may be more detrimental to children, particularly if it involves an immediate change in the primary caregiver.

Scholars have also shown that children of incarcerated mothers are more likely to be victimized—physically and sexually—and are at a higher risk of substance abuse (Greene, Haney, and Hurtado, 2000). Maternal incarceration is also associated with an increased risk of mental health issues, such as PTSD (Kampfner 1995). Victimization, mental health issues, and substance abuse are all associated with higher odds of criminal justice contact, particularly for women (Bloom and Covington, 2009; Covington and bloom 2007; Dodge and Pogrebin, 2001; Greenfeld and Snell 1999; Harwell and Orr, 2009; James 2004; Mumola 2000; Tripodi and Pettus-Davis, 2013). Furthermore, individuals who have had a mother incarcerated are

significantly less likely to graduate from college, and more likely to drop out of high school (Cho 2010; Hagan and Foster 2012). As previously stated, lower educational levels are associated with criminal justice contact (Pettit and Western 2004), meaning maternal incarceration is likely to influence the intergenerational transmission of criminal justice contact through their children's own socioeconomic attainment.

Maternal incarceration has also been directly linked to increased risk of criminal justice contact. Analyses indicate maternal incarceration is associated with a higher risk of being arrested, convicted, and incarcerated in adulthood (Burgess-Proctor et al. 2016; Huebner and Gustafson 2007; Muftić et al. 2015). These results suggest that like paternal incarceration, children who experience maternal incarceration are significantly more likely to come into contact with the criminal justice system. While these studies show a direct association, two using Add Health data were unable to control for important parental behaviors, such as deviance, and did not account for neighborhood factors, such as disadvantage (Burgess-Proctor et al. 2016; Muftić et al. 2015). Using the NLSY 97, Huebner and Gustafson (2007) were able to account for maternal deviance, but not for neighborhood disadvantage. Similar to paternal incarceration, research on maternal incarceration has been unable to fully account for potential mitigating factors in the intergenerational transmission of criminal justice contact. These include individual and contextual measures, as well as controls regarding parental deviance separate from the criminal justice system.

Maternal Versus Paternal Incarceration

There is also research analyzing whether the consequences for children are stronger for paternal incarceration than maternal incarceration. Like most research, there are varying results with some finding that paternal incarceration had a larger influence than maternal incarceration

and vice versa (Tasca et al., 2011; Tasca et al., 2014; Wildeman and Turney 2014; Wildeman 2014). What this demonstrates is that there are more unanswered questions regarding the influence of paternal and maternal incarcerations on the intergenerational transmission of criminal justice contact.

There is research that suggests paternal incarceration may be more detrimental to their children as compared to maternal incarceration. Research shows that only paternal incarceration significantly increases the probability their child will experience homelessness (Wildeman 2014). Furthermore, in a sample of disadvantaged children, scholars found that the association between parental incarceration and child behavioral problems was stronger for paternal rather than maternal incarceration (Wildeman and Turney 2014). Children who have experienced paternal incarceration are at a significantly higher risk of ever being suspended or expelled from school (Johnson 2009). These results indicate that paternal incarceration, in opposition to maternal, may have more serious implications on their children's odds of criminal justice contact.

Conversely, there is research that has found significant effects only for maternal incarceration. For example, data from parents imprisoned in Arizona Department of Corrections facilities indicated that among children whose mothers were currently incarcerated, caretakers were more likely to indicate that the child needed mental health services (Tasca et al. 2014). Among Black youths, maternal incarceration—and not paternal incarceration—increases the probability of their children becoming involved in the sex trade (Nebbitt et al., 2014). Also, only having had a mother incarcerated growing up was linked to participating in prison violence among incarcerated adults (Novero et al., 2011). Having had a mother incarceration was also

associated with an increased risk of their children experiencing a *second* arrest (Tasca et al., 2011).

However, there is also research that shows both maternal and paternal incarceration matter. Among a sample of boys, having ever had a parent—either mother or father—convicted of a crime was the most salient predictor of juvenile deviant and offending behavior (Smith and Farrington 2004). Other research also found that both mothers' and fathers' incarceration has a significant effect on their child's odds of criminal justice contact, however, the results are more pronounced when the gender of the parent incarcerated matches the gender of the child (Burgess-Proctor et al. 2016).

While these studies have found that both paternal and maternal incarceration significantly influence the intergenerational transmission of criminal justice contact, their methods do not indicate they analyzed the difference between maternal and paternal incarceration specifically. These analyses appear to have just compared the significance of paternal and maternal incarceration with no parental incarceration as reference. Further shortcomings include a lack of measures of parental deviance, respondent's deviance, and neighborhood disadvantage. Prior disadvantage and parental behaviors are important factors because they may mitigate the significance of parental incarceration.

Pre-Existing Disadvantages and Social Learning

Scholars have called attention to pre-existing disadvantages that may render the significance of the intergenerational transmission of criminal justice contact spurious.
It is because of these economic reasons that paternal incarceration itself may not be significantly associated with their children's criminal justice contact. There is ample research suggesting that prior to having a mother incarcerated, children were already more likely to be disadvantaged and

had higher reports of behavior problems by their caregiver or teacher (Wildeman and Turney 2014). In regard to disadvantage, Siegel (2011) delves into the life course of these children and the context in which maternal incarceration occurs and finds having a mother incarceration is just one more disruption in the lives of individuals who are suffering from significant deficits. The majority of these children were also from low income homes, which means they were living in disadvantaged neighborhoods with high rates of violence, neglect, and abandoned houses. For many children of incarcerated mothers, violence, poverty, as well as parental mental health and substance use problems characterize their children's upbringings (Johnson and Waldfogel 2004; Phillips, Erkanli, Keeler, Costello, and Angold 2006; Siegel 2011). Research has also found that maternal incarceration may only have negative implications for their children's well-being when they are at low risk of maternal incarceration (Turney and Wildeman 2015).

There is evidence that the intergenerational transmission of criminal justice contact may reflect shared experiences of neighborhood poverty (Siegel 2011). Early on in neighborhood research, Shaw and McKay (1942) found that lower neighborhood crime rates were associated with access to conventional institutions and resources promoting juvenile involvement in prosocial activities. Neighborhoods characterized by structural disadvantage (e.g., poverty) often have social institutions that are weak and provide little access to resources outside the neighborhood (Bursick and Grasmick 1993; Wilson 1987). Research finds that it is very hard to escape disadvantaged neighborhoods, and children growing up in poor neighborhoods often remain in them as adults (Sharkey 2008). In addition, research finds that social problems like joblessness, violence, delinquency, and poor mental health tend to also be concentrated in disadvantaged neighborhoods (MacIntyre and Ellaway 2003; Sampson et al. 2002; Wilson 1996). Therefore, it is plausible that the intergenerational transmission of criminal justice contact

is a result of economic disadvantage. Prior work has been unable to account for all of these economic and educational deficits both paternal and maternal incarceration creates, which may also explain the differing results.

There is also the possibility that parents directly transmit their deviant and criminal behavior by including their children in it. Research has shown that parental deviant behaviors attenuated the significance of parental incarceration (Farrington 2011; Murray, Janson, and Farrington, 2007). These particular studies did not disaggregate paternal and maternal incarceration, and therefore cannot speak to the potential differences. In regard to paternal incarceration specifically, researchers have found that criminal behavior precedes paternal incarceration and perhaps the effect on delinquency is an artifact of exposure to a criminal father and not the incarceration itself (Farrington et al. 2001; Van de Rakt et al. 2008). Research regarding maternal incarceration also demonstrated similar patterns with maternal deviance and substance use preceding their incarceration. In many cases, a parent's substance abuse, mental health issues, and domestic violence precede parental incarceration, all of which are risk factors for children's own arrest and incarceration (Giordano et al. 2019; Murray and Farrington 2008; Farrington et al. 2001; Siegel 2011). This research demonstrates the complexity underlying the intergenerational transmission of criminal justice contact. While prior work has been able to add to our understanding of this process, there has not been a population-based study that has analyzed both paternal and maternal incarceration while also controlling for prior disadvantages and behaviors.

Current Study

This chapter analyzed the intergenerational transmission of criminal justice contact. Prior research has highlighted the association between parental incarceration and their children's

criminal justice contact (Besemer, Ahmad, Hinshaw, and Farrington 2017; Wildeman and Andersen 2017). However, at the basis of these studies seems to be a lack of clarity of whether there is a unique effect of parental incarceration or if the significance is through preexisting behaviors and disadvantages. I conceptualized parental deviance, respondent deviance, and socioeconomic disadvantage as factors that influence the intergenerational transmission of criminal justice contact. I assessed whether the significance of parental incarceration remained once these factors were accounted for. I also compared paternal and maternal incarceration to those without criminal justice as well analyzed how paternal and maternal incarceration may have differing effects. This is important because paternal and maternal incarceration may have significant associations as compared to those with no criminal justice contact, but there may be no differences between those with a parent incarcerated.

To date, no population-based studies have investigated the implications of parental incarceration while considering the respondent's and parent's behavior, as well as socioeconomic variables. In my first set of hypothesis I analyzed how paternal and maternal incarceration were significantly associated with the respondent's odds of 1) being arrested and 2) being incarcerated. I first expected that respondents who had a father or mother incarcerated by age 13 would be significantly more likely to be arrested or incarcerated. I also expected the magnitude of paternal and maternal incarceration to be partly explained by the economic disadvantage and parental behaviors associated with parental incarceration. I also expected the significance of parental incarceration to be stronger for women as criminal justice contact is not as common for women. Therefore, disadvantages and parental behavior may have an especially significant influence on the criminal behavior of women.

In my second set of analyses, I examined how the significance of maternal incarceration on the intergenerational transmission of criminal justice contact differed from paternal incarceration. I hypothesized that maternal incarceration would be associated with significantly higher odds of their children being arrested or incarcerated because they were most likely to have been the primary caregiver. I also anticipated that the disadvantages associated with maternal incarceration would mitigate the significant difference between paternal and maternal incarceration. Lastly, I expected women to be significantly more influenced by maternal incarceration as compared to men because prior research has found more significant associations for same gender parent-child dyads.

Data and Methods

Data

I analyzed longitudinal data from the Toledo Adolescent Relationships Study (TARS). TARS is a sample based in Lucas County, Ohio. The 1,321 respondents were selected in 2000 from publically available records of students in the 7th, 9th, and 11th grades. As opposed to nationally representative school-based samples, such as the Add Health, school attendance was not required for sample inclusion. The sampling frame of TARS, developed by the National Opinion Research Center, was comprised of 15,188 eligible students separated by race/ethnicity (non-Hispanic White, non-Hispanic Black, and Hispanic), gender, and grade into 18 strata. TARS oversampled Black and Hispanic students. Through random subsamples, TARS selected 2,273 students from each stratum. Of the 2,273 students, TARS contacted 1,625 and had 304 refusals, leaving 81.3% or 1,321 students. To maintain privacy, each respondent filled out an in-home questionnaire and more sensitive topics were answered with a computer-assisted personal

interview (CAPI). A parent also completed a survey separately from the adolescent during the first interview. Later waves (waves 4 and 5) were completed on-line.

The current chapter drew from five waves of data. Interviews for wave 1 began in 2001, wave 2 in 2002/2003, wave 3 in 2004/2005, wave 4 in 2006/2007, and the most recent completed data collection occurred for wave 5 in 2011/2012. I first excluded respondents who experienced an arrest prior to age 13 (n=46), so as to establish a clearer temporal ordering. Also, arrests at early ages may have very different implications. Those missing on parents' reports of going out or substance use were also excluded (n=17). Lastly, I excluded respondents who were missing on the dependent variables, and the independent variables (n=75) resulting in 1184 respondents.

Dependent Variables

Arrest: at waves 3, 4, and 5 TARS asked respondents about their experiences with the criminal justice system, including the dates of any arrests. I used the date of first reported arrest to create a variable for age at first arrest (in months). I used the respondents' birthday to calculate the age of arrest and only included respondents who were arrested after age 13. I did this to ensure the time ordering of parental incarceration and this form of criminal justice contact. Respondents who reported they were arrested after age 13 were coded as 1; otherwise respondents were coded as 0.

Incarceration is measured by a combination of self-reported incarceration and official records of entrance into jail. For discussion the official indicator representing jail see the first chapter's discussion about the variable. No respondent had spent time in jail prior to age 17, so no respondents had to be dropped to ensure the time ordering of parental incarceration and contact. At waves 4 and 5 TARS asked respondents about their incarceration experiences. Respondents could indicate they were not enrolled in school during the past year because they

had been spending time in prison. Respondents were also asked about why they had moved out of their parent's house and could indicate incarceration as a reason. TARS also asked the respondents about their arrest history and could indicate whether the arrest led to spending time in jail. Respondents whose official records indicated they had been incarcerated and those who reported incarceration in waves 4 and 5 were coded as 1; otherwise respondents were coded as 0.

Independent Variables

Parents' Party Behavior is a measure that was gathered from the wave 1 parent questionnaire. Parents were asked during the past year how often they (1) gone out to party with your spouse or partner and (2) gone out to party with friends. Responses ranged from 1) never to 8) almost daily, and higher values reflects more deviance.

Parents' substance use, a subset of the deviance measures, asked parents were how often in the last year they (1) used alcohol to get drunk (2) used drugs to get high (not because you were sick). Responses ranged from (1) never to (8) almost daily. Higher values reflect more substance use.

Parental Education was measured at the wave 1 parent questionnaire and reported by their mother or father. Reporting parents were asked how far they went in school. Parents could choose from (1) 1st-8th grade; (2) less than 12 years; (3) 12 years (or obtained GED); (4) went to business, trade or vocational school after high school; (5) 1-3 years of college; (6) graduated from a college or university; (7) Obtained professional training beyond a 4-year college or university. Parents who reported their educational levels as (1) or (2) were coded as 1, those who reported a (3) were coded as 2, those who reported (4) or (5) were coded as 3, and those who reported (6) or (7) were coded as 4. Therefore, higher levels reflect more educational attainment for the respondent's parents.

Wave 1 Delinquency is a mean scale based on 8 items in which the respondents reported delinquency in adolescence. TARS asked respondents: "In the last two years (or 24 months), how often have you, (1) stolen (or tried to steal) things worth $5 or less; (2) damaged or destroyed property on purpose; (3) carried a hidden weapon other than a plain pocket knife, (4) stolen (or tried to steal) something worth more than $50; (5) attacked someone with the idea of seriously hurting him/her; (6) sold drugs; (7) broken into a building or vehicle (or tried to break in) to steal something or just to look around; and (8) used drugs to get high (not because they were sick)" (Elliott & Ageton 1980). Responses ranged from "never" (1) to "more than once a day" (9).

Wave 1 Substance use is a mean scale variable reflecting the respondents reported substance use in adolescence. This measure is a 7-item in which respondents were asked, "How often in the past 12 months have you experienced these things because of your drinking/using drugs:" (1) "Not felt so good the next day," (2) "Felt unable to do your best job at work or school," (3) "Hit one of your family members," (4) "Gotten into fights with others," (5) "Had problems with your friends," (6) "Had problems with someone you were dating," and (7) "Gotten into a sexual situation that you later regretted." Responses ranged from (1) never to (8) almost daily.

Female, measured as a binary variable, indicated whether the respondent reported their sex was female at wave 1. *Two Biological Parents,* was gathered from the parent questionnaire during the first interview. This indicator compared two biological parent households versus. every other family structure (step families, single parent families, living alone, etc.).

Concentrated disadvantage wave 1 measures the respondents' neighborhood disadvantage at wave 1. Based on census data and address reports the respondents' neighborhood

characteristics were gathered. For this measure, I used percentages 1) of the population below 18; 2) on public assistance; 3) female headed households with kids under 18; 4) Black residents; 5) poverty and 6) unemployment of those 16 and older. I decided to include the percent Black in this measure because of the extensive research on the differences between race and ethnicity in regard to neighborhood disadvantage (see Peterson and Krivo 2010). To account for variation in the distribution of concentrated disadvantage I took the z score of the means. Higher values indicate higher levels of concentrated disadvantage.

I controlled for self-reported *race/ethnicity* at the first interview categorized as: (1) white, (2) Black, (3) Hispanic, and (4) other. Due to small sample sizes, I excluded respondents in the other category and had 3 mutually exclusive categories of (1) *white*, (2) *Black*, and (3) *Hispanic*. I controlled for *gainful activity* to account for the potential influence on parenthood decisions. At each wave respondents were asked if they were in school or if they were employed. Respondents were asked, "Are you attending school [high school, vocational school, or college] this year?" Responses were "Yes" or "No," coded as 1 if attending school, and 0 otherwise. Respondents were then asked, "Are you currently working for pay for at least 10 hours a week" and "Is this job full-time or part-time?" Responses were "Yes" or "No," coded as 1 if the respondent indicated yes their job was full-time, and 0 otherwise. If respondents indicated they were either in school or working (full time), they were coded as 1, and 0 otherwise (Alvira-Hammond, Longmore, Manning, and Giordano 2014). The resulting variable is a mean variable taking their average gainful activity from waves 1-4, which allowed me to control for their overall gainful activity.

Analytic Strategy

In Table 12 I provided the descriptive statistics for the full sample, as well as divided by paternal and maternal incarceration experience. Table 13 showed the logistic regression results for the analyses predicting the respondent's arrest. Then, Table 14 provided the logistic regression results for the analyses predicting whether the respondent had ever been incarcerated. Table 15 provided the results where respondents who had a mother incarceration were used as the comparison group—as opposed to the respondents with no parental incarceration that was the case in Tables 13 and 14—when predicting odds of arrest and incarceration.

I first estimated the baseline effects of the variables to see their independent associations with odds of respondent's criminal justice contact. I then incorporated the respondent's parent's reports of partying and substance use, with the measures of maternal and paternal incarceration in the models (*Model 1*). Next, the respondents' demographic controls of two biological parent household, parental education, neighborhood disadvantage, and race/ethnicity were included (*Model 2*). In model 3 I included controls for the respondents' adolescence delinquency and substance use, as well as their average gainful activity (*Model 3*). Finally, I incorporated the interactions of gender and parental incarceration to determine if parental incarceration operated in the same way for men and women (*Model 4*).

Descriptive Results

Table 12 showed the descriptive statistics for the sample as a whole, as well as split by paternal and maternal incarceration. Results showed that overall, 34% of the sample had been arrested and 23% had been to jail. About 16% had a father incarcerated by their 13th birthday and 7 % had a mother incarcerated by their 13th birthday. Among respondents who had a father incarcerated 46 had been arrested and 34 had been to jail or prison. Respondents who had a mother incarcerated reported higher levels of arrest and jail/prison, 57 and 50 percent

respectively. Respondents with either a father or a mother incarcerated were more likely to report higher levels of disadvantage.

There was also overlap in respondents who experienced both maternal and paternal incarceration. Of those respondents who experienced paternal incarceration, 18% also experienced maternal incarceration. Of those respondents who experienced maternal incarceration, 40% also experienced paternal incarceration.

Multivariate Results

Arrest

Table 13 provided the logistic regression results where I predicted the odds of respondents being arrested after age 13. Model 1 supported my first hypothesis with respondents who had a mother or father incarcerated significantly more likely to report being arrested. Model 2 added parents reported substance use and party behavior, and respondents who had a parent who reported higher levels of substance use were significantly more likely to be arrested. This finding supported my other expectations with prior parental behaviors influencing their child's criminal justice contact above and beyond their incarceration. Their parents' antisocial behaviors did not mitigate the significance of having a father or a mother incarcerated in childhood. Model 3 added in the respondents' demographic controls, and the combination of these demographics mitigated the significance of paternal incarceration. This also supported my hypothesis that the significance of paternal incarceration would be explained by the pre-existing disadvantages associated with paternal incarceration. Regardless of these demographic controls, respondents who had a mother incarcerated during their childhood remained significantly more likely to be arrested. Women and individuals who grew up with two biological parents were also significantly less likely to be arrested.

Model 4 incorporated respondent controls associated with the probability of criminal justice contact: delinquency at wave 1, substance use at wave 1, and the respondent's average gainful activity. Respondents who reported higher delinquency in wave 1 were more likely to be arrested, and respondents with a higher average of gainful activity were significantly less likely to be arrested. Despite the additional controls, respondents who experienced maternal incarceration by age 13 were significantly more likely to be arrested. This goes against my hypothesis that the effect of maternal incarceration would be mitigated by the pre-existing disadvantages associated with maternal incarceration. In Model 5 I included the interactions between gender and the parental incarceration measures to assess whether women were more influenced by parental incarceration. The results demonstrated there were no significant gender differences in the effects of parental incarceration.

Incarceration

I next analyzed how paternal and maternal incarceration may influence odds of being incarcerated; the results are shown in Table 14. Model 1 supported my hypothesis and showed that respondents who had a mother incarcerated or a father incarcerated by age 13 were significantly more likely to have been incarcerated. Model 2 incorporated the parents' partying behavior and substance use, and there was only a marginal significance of parents' substance use. Against my expectation that parental behaviors would explain the significance of the parental incarceration measures, those who had a father or mother incarcerated were significantly more likely to have been incarcerated. In model 3 I added the demographic controls and the significance of paternal incarceration was attenuated by the demographic controls. This was what I had anticipated; the effect of paternal incarceration was accounted for by the pre-existing disadvantages associated

with paternal incarceration. Respondents who had a mother incarcerated in childhood remained significantly more likely to go to jail or prison.

Women, respondents who grew up with two biological parents, and those with higher levels of parental socioeconomic status were significantly less likely to go to jail or prison. Respondents who lived in more disadvantaged neighborhoods were significantly more likely to go to jail or prison, as were Black and Hispanic respondents. In Model 4 I included respondents' antisocial behaviors of delinquency and substance use and their average levels of gainful activity. Respondents who reported more delinquency at wave 1 were significantly more likely to go to jail or prison. Those with a higher average of gainful activity were significantly less likely to be incarcerated. Despite expectations and numerous important covariates maternal incarceration was still associated with an increased risk of incarceration. Then in Model 5 I assessed whether women were more likely to be affected by paternal and maternal incarceration. The results indicated there were no gender differences in how parental incarceration influences odds of incarceration.

Multivariate Results with Maternal Incarceration as the Reference Group

Arrest

In table 15 I next assessed how the intergenerational transmission of criminal justice contact differed by whether the respondent had a father or mother incarcerated. Therefore, in these analyses I changed the reference category to maternal incarceration. Model 1 showed that in accordance with my hypothesis, paternal incarceration was associated with significantly lower odds of the respondent reporting an arrest. Therefore, respondents who had a mother incarcerated were significantly more likely to be arrested after age 13. In Model 2 I controlled for the parents'

behaviors, respondent demographics, and respondent behaviors. In this model the significance of paternal incarceration is diminished to a marginal significance. Upon further analyses, it was the demographic factors that rendered the difference between paternal and maternal incarceration insignificant. This was also as I had hypothesized since the pre-existing disadvantages associated with maternal incarceration explained the difference. In Model 3 I included the gender and parental incarceration interactions to assess if women were more likely to be affected by parental incarceration. The results showed no significant gender differences, meaning parental incarceration operates in a similar manner for men and women.

Incarceration

I next analyzed how maternal and paternal incarcerations may be significantly different from one another in regard to odds of their children being incarcerated. As expected, Model 1 indicated that paternal incarceration in childhood was significantly less likely to lead to incarceration for their children, compared to maternal incarceration. I next controlled for relevant behavioral and demographic factors in Model 2 and the significant difference between maternal and paternal incarceration is explained. Upon further analyses, the effect was mitigated by family structure, parents' socioeconomic status, and concentrated disadvantage (individually). This also was as I expected because the increased odds of being incarcerated due to maternal incarceration is explained by the pre-existing disadvantages. Next, I assessed the gender differences in the effects of paternal and maternal incarceration. Model 5 includes an interaction term and demonstrated there were no gender differences in odds of being incarceration by parental incarceration.

Discussion

Each year more children are exposed to parental incarceration, and for decades scholars have been documenting the numerous consequences that having a parent incarcerated can have (see Hagan and Dinovitzer 1999 and Wildeman, Goldman, and Turney 2018). This chapter sought to determine how paternal and maternal incarceration influenced their children's odds of arrest and incarceration as compared to those who never had a parent incarcerated and to each other. This chapter has implications for understanding how gender of the parent influences the intergenerational transmission of criminal justice contact.

Parental incarceration exhibited a strong association with their children's own future criminal justice contact. Respondents who had a mother incarcerated by age 13 were significantly more likely to be arrested and go to jail, as compared to respondents who never had a parent incarceration by age 13. Prior antisocial behavior of both the respondent and their parents, as well as socioeconomic reduced but did not fully account for the significance of maternal incarceration for the intergenerational transmission of criminal justice contact. The significance of paternal incarceration was mitigated by the combination of respondents' demographic controls, mostly representing their economic circumstances. Furthermore, the analyses showed no gender differences in regard to the associations of paternal and maternal incarceration of their children's criminal justice contact. In sum, maternal incarceration itself posed a unique effect on odds of their children being arrested and incarcerated, and this operated similarly for both men and women. The disadvantaged pre-existing economic circumstances associated with having a father incarcerated mitigated paternal incarceration's effect on odds of criminal justice contact.

There are a few reasons why maternal incarceration was so central in the intergenerational transmission of criminal justice contact. First, research has demonstrated that

women—as compared to men—who come into contact with the criminal justice system are particularly disadvantaged and have histories of victimization, mental health issues, and substance abuse (Bloom and Covington, 2009; Covington 2006; Dodge and Pogrebin, 2001; Greenfeld and Snell 1999; Harwell and Orr, 2009; James 2004; Mumola 2000; Tripodi and Pettus-Davis, 2013). Thus, the selection of women may be more skewed to disadvantage as compared to men. However, I did control for socioeconomic factors, but one caveat is I did not discern whether these controls were measured before or after the parent's incarceration. The significance of maternal incarceration may be attributed to the cumulative disadvantage *after* the incarceration, of which is not captured here. Prior work has also shown that mothers in the criminal justice system were also more likely to have been the primary caregiver of their children (Glaze and Maruschak 2008). Maternal incarceration may have an influence through the shift in primary caregiver and/or entrance into foster care. However, I also controlled for living with two biological parents growing up. Therefore, it is likely that there is something unique about maternal incarceration or the disadvantages it creates after.

This chapter expanded on prior work by also compared how maternal and paternal incarceration differed in regard to their association with their children's criminal justice contact. Results indicated that as compared to maternal incarceration, those who had a father incarcerated were significantly less likely to be arrested and incarcerated. However, controlling for the respondents' economic conditions explained this significant difference. This suggests that the association of maternal incarceration with greater odds of criminal justice contact—as compared to paternal incarceration—is due to the disadvantages associated with it. This indicates that mothers who come into contact with the criminal justice system are particularly disadvantaged, as compared to having a father incarcerated. This points to the importance of considering the

reference group in analysis and jointly examining paternal and maternal incarceration experiences. The results also suggest there may not be as many gender differences in regards to how parental incarceration influences their children's odds of contact.

Although this chapter contributed to our understanding of paternal incarceration, there are a number of limitations that are important to note. The TARS sample is not a nationally representative sample and may not reflect the overall trends of the intergenerational transmission of criminal justice contact. My indicators of paternal and maternal incarceration were official measures and depended on publically available data. It is plausible that researchers were unable to identify if a parent was incarcerated because the information was not available. I did control for parental deviant behavior and substance, which was reported by the parent who answered the questionnaire and mostly mothers (90%), answered the parent questionnaire. Therefore, my results likely underrepresented the influence of paternal behavior and may not be representative of fathers' behaviors. Additionally, my measure of incarceration included official reports of jail and self-reports of incarceration, there may be qualitative difference between these two types of incarceration (shorter versus. extended stays). Despite these limitations, this chapter has important implications for policy aimed at reducing the prevalence and significance of parental incarceration.

The results of this chapter highlighted how paternal and maternal incarceration may have different influences on the intergenerational transmission of criminal justice contact through disadvantage. Policies should look at the unique experiences of mothers in the criminal justice system, and put in place social supports for both them and their children. We also need to rethink the restrictions on social welfare requirements and not limit them to only those without criminal justice contact. Furthermore, the United States should consider defunding the criminal justice

system and investing more into communities and social safety nets, as much of the significance of parental incarceration is through the disadvantages associated with it.

Table 12. Descriptive Characteristics of the Analytic Sample

	Overall		Paternal		Maternal	
	% or M	SD	% or M	SD	% or M	SD
Criminal Justice Contact						
Any Arrest	34.38		46.32		56.82	
Any Incarceration (Jail/Prison)	22.64		34.21		50.00	
No Criminal Justice Contact	60.81		47.89		32.95	
Parental Incarceration by Age 13						
Paternal Incarceration	16.05				39.77	
Maternal Incarceration	7.43		18.42			
(No Parental Incarceration)	76.52					
Parental Behavior						
Parents' partying behavior	1.31	1.23	1.25	1.18	1.11	1.22
Min=0; Max=7;						
Parents' substance use	0.46	0.89	0.60	1.07	0.59	1.21
Min=0; Max=7;						
Respondent Demographics						
Female	52.79		47.37		56.82	
(Male)	47.21		52.63		43.18	
Family Structure						
Two Biological Parent Household	52.20		32.63		15.91	
(All other family structures)	47.80		67.37		84.09	
Parental Education	2.67	0.96	2.46	0.94	2.19	0.88
Min=1; Max=4						
Neighborhood Disadvantage at wave 1	-1.47	4.42	0.18	5.02	2.58	5.23
Min=-7.2; Max=16.5;						
Race/Ethnicity						
Black	24.16		34.74		56.82	
Hispanic	10.90		18.95		10.23	
(White)	64.95		46.32		32.95	
Respondent Behaviors						
Delinquency Wave 1	0.18	0.49	0.20	0.51	0.19	0.47
Min=0; Max=6.63;						
Substance Use Wave 1	0.13	0.41	0.16	0.49	0.19	0.53
Min=0; Max=4;						
Respondent gainful activity	86.49		83.51		83.14	
N	1184		190		88	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

Table 13. Odds Ratio of Arrest

	Zero-Order	Model 1	Model 2	Model 3	Model 4
Parental Incarceration by Age 13					
Paternal Incarceration	1.64 **	1.59 ***	1.34 †	1.32	1.47
Maternal Incarceration	2.42 ***	2.40 **	1.89 **	1.93 **	1.30
(No Parental Incarceration)					
Parental Behaviors					
Parents' Partying Behavior	1.03	0.99	0.98	0.98	0.99
Parents' Substance Use	1.24 **	1.22 **	1.19 *	1.15 †	1.15
Respondent Demographics					
Gender					
Female	0.41 ***		0.38 ***	0.38 ***	0.37 ***
(Male)					
Family Structure					
Two Biological Parent Household	0.48 ***		0.56 ***	0.58 ***	0.57 ***
(All other family structures)					
Parental Education	0.80 ***		0.89	0.91	0.92
Neighborhood Disadvantage	1.06 ***		1.01	1.00	1.00
Race/Ethnicity					
Black	1.85 ***		1.27	1.31	1.30
Hispanic	1.22		0.88	0.77	0.77
(White)					
Respondent Behaviors					
Delinquency Wave 1	1.94 ***			1.71 **	1.72 **
Substance Use Wave 1	1.62 **			1.01	1.00
Respondent Gainful Activity	0.17 ***			0.20 ***	0.20 ***
Interactions					
Female*Maternal Incarceration	1.46				1.94
Female*Paternal Incarceration	0.79				0.80

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001
N=1184

Table 14. Odds Ratio of Incarceration

	Zero-Order		Model 1		Model 2		Model 3		Model 4	
Parental Incarceration by Age 13										
Paternal Incarceration	1.72	**	1.68	**	1.21		1.18		1.31	
Maternal Incarceration	3.43	***	3.39	***	1.82	*	1.83	*	1.24	
(No Parental Incarceration)										
Parent Behaviors										
Parents Partying Behavior	1.01		0.98		0.99		1.00		1.00	
Parents' Substance Use	1.18	*	1.16	†	1.10		1.06		1.05	
Respondent Demographics										
Gender										
Female	0.41	***			0.33	***	0.34	***	0.33	***
(Male)										
Family Structure										
Two Biological Parent Household	0.29	***			0.44	***	0.45	***	0.44	***
(All other family structures)										
Parental Education	0.60	***			0.74	**	0.75	**	0.75	**
Neighborhood Disadvantage	1.15	***			1.05	*	1.05	*	1.05	*
Race/Ethnicity										
Black	4.95	***			2.57	***	2.79	***	2.77	
Hispanic	3.01				1.84	*	1.66	*	1.66	*
(White)										
Respondent Behaviors										
Delinquency Wave 1	2.00	***					1.95	**	1.96	**
Substance Use Wave 1	1.69	***					1.09		1.08	
Respondent Gainful Activity	0.16	***					0.28	**	0.27	**
Interactions										
Female*Maternal Incarceration	1.41								1.99	
Female*Paternal Incarceration	0.74								0.82	

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.

† p < .1. *p <.05. **p<.01. ***p<.001
n=1184

Table 15. Odds Ratio of Arrest and Incarceration with Maternal Incarceration as the Reference

	Arrested			Incarcerated		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Focal Independent Variables						
Parental Incarceration by Age 13						
Paternal Incarceration	0.52 *	0.54 †	0.65	0.50 *	0.81	1.03
No Parental Incarceration	0.26 ***	0.35 **	0.41 †	0.22 ***	0.62	0.76
(Maternal Incarceration)						
Parental Behaviors						
Parents Partying Behavior		0.99	0.99		1.00	1.00
Parents' Substance Use		1.15 †	1.15 †		1.06	1.05
Controls						
Gender						
Female		0.38 ***	0.46		0.34 ***	0.46
(Male)						
Family Structure						
Two Biological Parent Household		0.58 ***	0.58 ***		0.44 ***	0.44 ***
(All other family structures)						
Parental Education		0.92	0.92		0.75 **	0.75 **
Neighborhood Disadvantage		1.00	1.00		1.05 *	1.05 *
Race/Ethnicity						
Black		1.25	1.25		2.77 ***	2.77 *
Hispanic		0.74	0.74		1.62 M	1.62 †
(White)						
Respondent Behaviors						
Delinquency Wave 1		1.69 **	1.69 **		1.93 **	1.94 **
Substance Use Wave 1		1.02	1.02		1.10	1.10
Respondent Gainful Activity		0.20 ***	0.20 ***		0.28 **	0.28 **
Interactions						
Female*Paternal Incarceration			0.75			0.66
Female*No Parental Incarceration			0.82			0.73

Source: Toledo Adolescent Relationships Study

Note. Contrast categories are in parentheses.
† p < .1. *p <.05. **p<.01. ***p<.001
N=1184

CHAPTER V. CONCLUDING REMARKS AND IMPLICATIONS

Individuals who have had a parent incarcerated are significantly more likely to suffer from negative economic, educational, health, and behavioral outcomes (Wildeman 2014; Wildeman and Turney 2014; Hagan and Foster 2012). Parental incarceration has been at the forefront of criminological literature, with an abundance of research dedicated to understanding this detrimental phenomenon. Despite the vast quantity of research on parental incarceration by scholars in a wide range of disciplines that have relied on a diverse set of data sources, there is still no consensus on the underlying mechanisms driving the intergenerational transmission of criminal justice contact. To expand our knowledge on these underlying mechanisms this dissertation focused on how intervening life course experiences, such as parenthood, may influence the intergenerational transmission of criminal justice experiences. Also, rather than focus simply on a direct transmission approach, I considered how parental incarceration influences consequential behavioral and well-being indicators. Furthermore, I accounted for prior behavioral and contextual factors that may alternatively explain the intergenerational transmission of criminal justice experiences.

Few studies have considered how a potential third generation may influence the intergenerational transmission of criminal justice contact. Early parenthood could act as a protective factor as individuals 'grow up' and engage in prosocial behaviors that lead away from the criminal justice system. Alternatively, early parenthood could further disadvantage youth with incarcerated parents, as the economic demands of parenthood may lead to criminal behavior and criminal justice system involvement. There is an intergenerational transmission component to many behaviors including incarceration and early parenthood (Bonell et al. 2006; East, Reyes, & Horn 2007; Wildeman and Andersen 2017). Both of these processes are associated with

decreased educational attainment (Perper, Peterson, and Manlove 2010; Hagan and Foster 2012) and increased deviant behavior (Coyne, Fontaine, Langstrom, Lichtenstien, and D'Onofrio 2013; Murray and Farrington 2005), but prior work had been unable to show how they intersect to influence criminal justice experiences. It is important for family scholars and criminologists to understand how early parenthood may influence the intergenerational transmission of criminal justice contact because both create economic and educational deficits. Furthermore, through these intergenerational processes children are at risk of having both a *grandparent* and a *parent* with criminal justice experiences. This can have serious implications for the health and well-being of children.

Another stream of research on parental incarceration demonstrated how influential having a parent incarcerated can be on their children's behavioral outcomes and well-being (Mears and Siennick 2016; Miller and Barnes 2015; Wildeman 2014). Behavioral and well-being outcomes associated with parental incarceration, such as delinquency, substance use, and depressive symptoms are also associated with an increased risk of criminal justice experience (Bronson et al. 2017; Sampson and Laub 1993; Torrey et al. 2014). While this body of research has given insight into the long-reach of parental incarceration on outcomes, it has not accounted for all potential mitigating factors, such as neighborhood disadvantage, prior individual behaviors, and parental behaviors. This is important because parental incarceration itself may not be the ultimate reason for negative child well-being; instead it may be the parenting or family climate that existed among those who had incarcerated parents (Giordano, et al. 2019). Understanding how paternal and maternal incarceration influences these outcomes is imperative as they are key links in the intergenerational transmission of exposure to the criminal justice system.

Lastly, much of the prior research solely has emphasized fathers' experiences, does not disaggregate the gender of the parent, and thus does not account for mothers. A more limited set of prior studies, for example, has documented ways in which the intergenerational transmission of criminal justice experience may differ depending on whether it is fathers or mothers who were incarcerated (e.g., Smith and Farrington 2004; Wildeman and Turney 2014). In one study relying on Add Health data both paternal and maternal incarceration had significant association with higher odds of their children having experiences with the criminal justice system (Burgess-Proctor, Huebner, and Dorso 2016). Other research findings are more mixed with some studies finding only paternal incarceration was significant, or only maternal incarceration as significantly associated with children's exposure to the criminal justice system (e.g., Tasca et al., 2011; Tasca et al., 2014; Wildeman and Turney 2014; Wildeman 2014). A limitation of these studies, however, is they have been unable to fully account for the respondents' and parents' behaviors that may be associated with greater odds of contact with the criminal justice system, as well as the dire economic factors associated with parental incarceration. Further, these studies did not compare how maternal incarceration itself differs from paternal incarceration, they only focused on how maternal and paternal incarceration difference from those individuals who did not experience parental incarcerated.

TARS was an appropriate data source because of the concentration of indicators of respondents' and their parents' criminal justice experiences, longitudinal prospective data allowing the measurement of the timing and sequencing of events, and inclusion of known behavior indicators associated with criminal justice experience. Using 5 waves of data from TARS, in this dissertation I examined the nuances in the intergenerational transmission of criminal justice experience. The first analytical chapter explored how the early parenthood

influenced the intergenerational transmission of criminal justice contact. The second analytical chapter examined how paternal and maternal incarceration were associated with delinquency, substance use, and depressive symptoms in early adulthood; all of which were associated with exposure to the criminal justice system. The third and final analytical chapter analyzed how the intergenerational transmission of criminal justice experience is influenced differently by paternal and maternal incarceration. The implications of these three analytical chapters are important as they can inform policy on how to potentially reduce justice contact and to target limited resources.

Key Findings and Contributions

Parenthood and the Intergenerational Transmission of Criminal Justice Contact

The first analytical chapter assessed how early parenthood influenced the intergenerational transmission of criminal justice experience. Furthermore, the first chapter also examined the intergenerational processes for exposure to the criminal justice system and parenthood. Prior work has found a strong association between parental incarceration and increased odds of children's exposure to the criminal justice system (Smith and Farrington 2004). However, prior work had not yet examined how the intergenerational transmission of parenthood (Bonell et al. 2006; East, et al. 2007) may influence contact with the criminal justice system. Parental incarceration and family processes may influence their children's precocious exits into adulthood, which can also have lasting economic implications. My first set of hypotheses focused on the intergenerational transmission of criminal justice experience. I expected respondents' whose parent had been incarcerated by their 13th birthday would be significantly more likely to spend time in jail by early adulthood. Parental incarceration itself was significantly associated with increased risk of spending time in jail through the respondents'

self-reported criminal prior to their time in jail. These results are consistent with other research that has demonstrated that parental incarceration influences contact with the criminal justice system through antisocial behavior (e.g., Wildeman 2010). I also expected parental incarceration to have a stronger influence on women's odds of spending time in jail, but this was not supported in the analyses as parental incarceration influenced the odds of jail similarly for men and women. This indicates that the intergenerational transmission of criminal justice contact operates similarly for men and women.

I also examined whether early parenthood influenced the intergenerational transmission of criminal justice experience while accounting for the timing of parenthood. As expected, parents were significantly more likely to have spent time in jail than respondents who did not have children. I had expected parenthood to attenuate the significance of parental incarceration. However, while early parenthood itself attenuated the magnitude of parental incarceration by 20%, parental incarceration remained significantly associated with the respondent going to jail or prison. As expected the significance of parenthood remained despite controlling for traditional factors tied to the criminal justice experience. Respondents who were parents were three times as likely to go to jail by early adulthood. As I had hypothesized, parenthood had a stronger effect for women's odds of incarceration experience than it did for men. These results suggested that early parenthood is particularly salient for women's experience with the criminal justice system because women are more likely to be primary caregivers. This means that children are most at risk of experiencing a change in caregiving and may be subjected to other negative consequences such as a change in residence associated with maternal incarceration.

My second set of hypotheses focused on how parental incarceration and parental teenage pregnancy influenced the timing of the parenthood. This association is important understand

because early parenthood is also associated with an increased risk of involvement with the criminal justice system. I expected both parents' incarceration and history of a teenage pregnancy to significantly influence the respondents' odds of early entry into parenthood. Parental incarceration proved to be significantly associated with an early entry into parenthood, but once I controlled for respondents' academic performance during adolescence, parental incarceration was not significant associated with the timing of the transition to early parenthood. This indicated that parental incarceration influences the entrance into parenthood through the academic performance. Controlling for other factors, youth with parents who had been pregnant as a teen had significantly higher odds of entering parenthood by age 28. Contrary to expectations, there were no gender differences in the association between parental incarceration, parent teen pregnancy, and one's own parenthood. In other words, parents' incarceration and history of a teenage pregnancy influence the entrance into parenthood similarly for men and women respondents.

In sum, the intergenerational transmission of parenthood significantly influenced the probability that the respondent will spend time in jail. Taken together these results tell a story of intergenerational processes where parents or grandparents who have had contact with the criminal justice system and/or early entrances to parenthood transmit these outcomes and behaviors to their children. Both intergenerational criminal justice experience and early parenthood have significant negative economic consequences (Hagan and Foster 2012; Hagan, Foster, and Murphy 2020; Perper, et al. 2010). Therefore, future research should highlight and create intervention processes for children who have a history of generations of exposure to the criminal justice system as well as early parenthood.

Parental Incarceration and Early Adulthood Outcomes

The second analytical chapter assessed how parental incarceration influenced respondents' incidence of criminal activity, substance use, and depressive symptoms in early adulthood. These are important indicators to focus on because individuals who have higher levels of criminal activity, substance use, and depressive symptoms are more likely to have criminal justice experience (Bronson, et al. 2017; Sampson and Laub 1993; Torrey et al. 2014). Furthermore, parental incarceration is also a possible source of strain that may influence their children's externalizing through behaviors such as criminal activity and substance use, as well as internalizing through depression. However, prior work had not been able to disaggregate parental incarceration by gender, and to account for prior economic and behavioral factors (of both the respondent and parent) associated with each outcome.

I first hypothesized that paternal and maternal incarceration would creates strains that would be significantly associated with higher criminal activity, substance use, and depressive symptoms in early adulthood. This was only partially supported by the analyses, which indicated that, once all covariates are controlled for, only maternal incarceration was significantly associated with substance use. The association of maternal incarceration with respondents' criminal activity and depressive symptoms were attenuated by sociodemographic background including family structure while growing up, race/ethnicity, and the pre-existing economic disadvantages. This suggested that the influence of maternal incarceration on adult criminal activity and depressive symptoms operates through economic risk factors that are also associated with parental incarceration. As opposed to social learning, this could indicate that criminal activity is associated with parental incarceration because of the economic deficits it creates.

Paternal incarceration was not associated significantly with criminal activity, substance use, or depressive symptoms. Instead, prior reports of these outcomes as well as pro-social

factors were more influential. Perhaps, paternal incarceration is associated with higher reports of criminal activity and depressive symptoms shortly after the incarceration, which in turn influences early adulthood outcomes. In relation to substance use, very few of the indicators, apart from gender, were significantly associated with substance use in adulthood. Paternal incarceration may not influence substance use in children because incarcerated fathers were less likely to be living with their children, leading to these children's lower exposure to fathers' criminal activity. Contrary to expectations, I did not find paternal incarceration to be more influential for men nor maternal incarceration more influential for women in regard to these outcomes. Again, this suggest that the strains associated with parental incarceration influence men and women's behavioral and well-being similarly.

My second set of hypotheses focused on how paternal and/or maternal incarceration may have significantly different influences on criminal activity, substance use, and depressive symptoms in early adulthood. To analyze these potential differences, I assessed maternal incarceration as the reference category. I expected maternal incarceration, as compared to paternal incarceration, to be associated with higher levels of criminal activity, substance use, and depressive symptoms. This hypothesis was partially supported, as there were significant differences between paternal and maternal incarceration for both substance use and depressive symptoms. However, there were no significant differences in early adulthood criminal activity between paternal and maternal incarceration.

I had hypothesized that there would be gender differences with paternal incarceration having a stronger influence on men's criminal activity, substance use, and depressive symptoms. Again, these results were only partially supported with depressive symptoms being the only

significant gender difference. Men's depressive symptoms were more influenced by paternal incarceration as compared to women.

These analyses with maternal incarceration as the reference provided stronger results compared to the analyses where respondents who did not have a parent incarcerated was the reference. These comparisons demonstrated how maternal incarceration may be more influential on negative behavioral outcomes as compared to paternal incarceration. Furthermore, while prior work has found that men tend to externalize the strain created by parental incarceration (Broidy and Agnew 1997; Kaufman 2009; Mirowsky and Ross 1995; 2003), in this study having an incarcerated father seems to have a bigger influence on their internalizing of strain when compared to women, thereby leading to depression.

Paternal and Maternal Incarceration and the Intergenerational Transmission of Criminal Justice Contact

The third and final analytical chapter analyzed whether the intergenerational transmission of criminal justice experience differed by whether respondents' mothers or fathers had been incarcerated. I anticipated both paternal and maternal incarceration to be associated with significantly higher odds of the respondent being arrested. This expectation was supported by the analyses, with both paternal and maternal incarceration being associated with higher odds of being arrested. I had also expected the significance of paternal and maternal incarceration to be attenuated by prior parental behaviors and pre-existing disadvantages associated with parental incarceration. While the parental behaviors did not attenuate the significance of paternal or maternal incarceration, the pre-existing disadvantages did diminish the significance of paternal incarceration. The inclusion of all potentially influential covariates did not, however, attenuate the significance of maternal incarceration. I had expected there to be gender differences with

paternal incarceration having a larger influence on men's arrest, and maternal incarceration having a stronger association with women's arrest. This hypothesis was not supported in the analyses, as paternal and maternal incarceration influenced the odds of arrest similarly for men and women. This is an important result as it suggests that exposure to paternal or maternal incarceration influences their children's similarly regardless of if the respondent was a man or a woman.

I also expected both paternal and maternal incarceration to predict the respondents' incarceration. This hypothesis was supported by the analyses, with both paternal and maternal incarceration being significantly associated with incarceration. I also expected the significance of paternal and maternal incarceration to be attenuated by the parent's behaviors and by the pre-existing disadvantages associated with exposure to the criminal justice system. This was partially supported because the demographic controls only attenuated the significance of paternal incarceration. The significance of maternal incarceration remained despite also controlling for respondents' antisocial and pro-social covariates. I had also expected there to be significant gender differences, and this was not supported by the analyses. Again, these "non findings" are significant in that they show the intergenerational transmission of criminal justice contact operates similarly to men and women. In this case, it appears to work through the economic disadvantages associated with parental incarceration.

The next set of hypotheses examined the odds of being arrested or incarcerated with maternal incarceration as the reference group. I expected respondents who had had a mother incarcerated to be significantly more likely to be arrested or incarcerated as compared to those with a father who had been incarcerated. This was supported by the analyses, as they showed respondents with an incarcerated mother were significantly more likely to be both arrested and

incarcerated. I had also anticipated the differences between maternal and paternal incarceration to be attenuated by the pre-existing disadvantages that are associated with parental incarceration. This was supported by my analyses because family structure, parent's education, and neighborhood disadvantage individually attenuated the significant difference between paternal and maternal incarceration. Respondents' race and ethnicity also attenuated the difference between paternal and maternal incarceration. Compared to White respondents, parental incarceration and criminal justice experience is higher for Black and Hispanic individuals so accounting for these differences explained their greater influence of maternal incarceration on justice contact.

Limitations

The results of this dissertation have expanded our understanding of how parental incarceration influences their children's criminal justice contact, however, there are some limitations. The TARS data used in this study is not a nationally representative sample and may not reflect general relationships in the intergenerational transmission of exposure to the criminal justice system in the United States. Another limitation is that the measures of parental incarceration (overall and disaggregated by paternal and maternal incarceration) were official measures that are not based on respondent or parent reports. Although there are some advantages to official records in that they reflect individuals' permanent criminal records and they can be publically accessed, nevertheless, it is possible that some of the parents' official records were not available online. This limitation may also hold for the measure of whether the respondent had been to jail. Lack of a criminal record online may reflect no actual contact, or it may be indicative of access to resources and the ability to have a record sealed.

Another limitation to note is that I only analyzed the influence of parental incarcerations experienced by age 13. There may be significant differences in the associations of parental incarceration by the age at which it occurred. Therefore, future work should also analyze how parental incarceration at older ages operates. Perhaps parental incarceration has more significant consequences when it occurs at older ages. I also did not distinguish between parents who were incarcerated before the respondent was born versus after the respondent was born. Future work should examine how timing of parental incarceration influences the probability of negative outcomes. Due to sample sizes, I also did not differentiate between respondents who actually had both parents incarcerated by their 13th birthday. The intergenerational transmission of criminal justice experience may be more influential for individuals who had both parents incarcerated. It should be noted that the indicators for paternal and maternal incarceration include respondents who had both parents incarcerated, with more privilege afforded to maternal incarceration. This indicates that more respondents in the maternal incarceration indicator reflect having both parents incarcerated as compared to the paternal incarceration measure.

Another limitation that needs to be noted is the lack of focus on the disparities experienced by Black individuals in the criminal justice system. Although I controlled for the race/ ethnicity of the respondent, this only shows whether or not there was a significant difference in outcome by race/ethnicity. This does not lend insight into the often discriminatory experiences that Black and Hispanics face in the criminal justice system. Black individuals are disproportionally represented in the criminal justice system with an incarceration rate significantly higher than that of whites (Carson 2020). The results of this dissertation mirror these findings in that black respondents were significantly more likely to come into contact with the criminal justice system. Understanding how the intergenerational transmission of exposure to

the criminal justice system differs by race and ethnicity is imperative, given the racist underpinnings and oppressive origin of the criminal justice system (see Alexander 2010). The recent brutal murder of a Black man called George Floyd has sparked outrage and protests across the United States and a number of other countries. While this level of brutality and imbedded racism in law enforcement and the criminal justice system is not new, the recent 'awakening' of the world to these issues seems to be new. Scholars, and more importantly the government, should consider funding in-depth research on inherent racism in the criminal justice system.

There are also limitations specific to each chapter that should be noted. In the first chapter, I only focused on jail and parenthood that occurred by age 28. Additional research is needed to see how parental incarceration may be influential after early adulthood. I also made the assumption that most of the parents' teenage pregnancies resulted in live births, but I do not know that for sure. Additionally, in this chapter I did not disaggregate parental incarceration by gender. I was also not able to distinguish between the effects of parent's incarceration and their criminal activity. In the same way that a parent's history of teen pregnancy influences the timing of parenthood for their children, the parent's prior criminal behaviors may be driving the intergenerational transmission of criminal justice experiences. Lastly, the mechanisms behind the intergenerational transmission of early parenthood are not readily known.

In the second chapter I did not include measures of child neglect, physical and emotional abuse, or violence victimization, which are associated with delinquency, substance use, and depressive symptoms (Chesney-Lind 2000; Greene, Haney, and Hurtado, 2000; Salisbury and Van Voorhis 2009). Therefore, the significance of maternal incarceration on substance use may be mitigated by neglect and/or abuse. In this dissertation, I only considered the long-term reach of parental incarceration on these outcomes.

In the third chapter, my measure of incarceration was a combination of official reports of jail and self-reports of incarceration. Specifically, at the fourth and fifth interviews, respondents were asked how many times they had been to prison, and I combined these individuals who reported spending time in prison with the official measure of jail. This measure of jail is an official measure based on publically available data. There may be qualitative differences between these two types of incarceration (shorter relative to extended stays) included in the overall variable. Specific to both the second and third chapters, my measures of parental deviant behavior and substance use were limited to the parent who answered the questionnaire, which were mothers in most of the cases (90%). Therefore, my results likely underrepresented the influence of paternal behavior and may not be representative of fathers' behaviors. I also did not account for the respondent's broader social climate by including peers or partner's behaviors, all of which can be important factors in individuals' enmeshment in deviant social groups (see Giordano et al. 2019).

Future Directions

Although this dissertation has provided new insights into the effect of parental incarceration, there are several new avenues for future research to pursue. The first analytical chapter showed a strong association between early parenthood and increased odds of spending time in jail by age 28, despite controlling for behavioral and contextual covariates. The same was not true for parental incarceration, which was mitigated by the respondents' own delinquent behavior. Therefore, future research should continue down this avenue to have a more nuanced understanding of the mechanisms behind early parenthood and criminal justice contact. It is important to note that these results do not suggest that these individuals are not fit to be parents or that there is a *direct* effect between parenthood and criminal justice contact. Rather, there may

be economic disadvantages these individuals are facing, which may be exacerbated by a lack of adequate social safety nets, which were not capture in this study. Respondents entering parenthood by age 28 were also more likely to have a parent report a teenage pregnancy, so perhaps they also faced intergenerational economic disadvantages.

The results of the first chapter also indicated the influence of early parenthood on criminal justice experiences was stronger for women than men. This could be because women are more likely than men to experience parenthood at younger ages (Woodward, Fergusson, and Horwood 2006). However, additional research is needed to understand the mechanisms behind this observed difference. Women are also more likely to be the caretakers of their children (Glaze and Marushak 2008), so perhaps the mechanisms are related to economic and parenting strains. Again, these results are not a commentary to the parenting skills of these individuals, but rather on how such parents impact their children. Future research should expand on these issues and further integrate connections between the family and criminal justice institutions. Additionally, parental incarceration's association with the timing of entrance into parenthood was attenuated by the respondent's academic performance. Therefore, research should continue to study what it is exactly about parental incarceration that translates into lower educational trajectories. This chapter represents a first step at highlighting how intertwined contact with the criminal justice system is with the institution of family.

In my second chapter I expanded our understanding of how paternal and maternal incarceration influences early adulthood outcomes. Specifically, the chapter shows that the experience of maternal incarceration by age 13 can significantly influence children's substance use in early adulthood. Future work should consider what it is about maternal incarceration that influences higher levels of substance use in children. Perhaps this association is related to the

higher probability that children will have a change in caregivers (Graham et al. 2010) or admitted into foster care. Certainly, future work would benefit from understanding if it is maternal absence or maternal incarceration that matters for young adult well-being.

Prior work has also found that victimization or other traumatic events influence substance use through mood disorders (Chesney-Lind 2000; Greene, Haney, & Hurtado, 2000; Salisbury and Van Voorhis 2009). Specifically, when an individual experiences trauma, this is likely to have an effect on their mental health. Substance use is then used as a coping mechanism or as self-medication for mental health issues. As previously mentioned, when mothers are incarcerated, their children are more likely to have a shift in household and primary caregivers. This shift may make these children more susceptible to different types of abuse (neglect, physical, or sexual). Thus, important next steps are to consider how maternal incarceration influences substance use through the potential increase in risk of abuse.

In my third chapter I expanded on the intergenerational transmission of criminal justice experiences by distinguishing maternal and paternal incarceration. Results showed that compared to respondents who did not experience parental incarceration, maternal incarceration was associated with significantly higher odds of their children being arrested or incarcerated. Future work should analyze the significance of having both parents incarcerated as opposed to just having a father or a mother incarcerated. This is important because 40% of TARS respondents who had a mother incarcerated also had a father incarcerated (see Finkeldey 2017 dissertation for discussion on the significance of having both parents incarcerated). It is possible that having a father or a mother incarcerated only has consequences when the other parent is also incarcerated. Conversely, there may be unique disadvantages associated with having both parents incarcerated that differ from having either parent incarcerated. Another possible vein of new work is to

consider the wider circle of influence and account for broader social networks (Giordano et al. 2019). Additionally, future work should continue down the avenue of social learning because parents' reports of substance use were significantly associated with arrest unless the respondents prior behaviors are accounted for. Future work should consider if social learning of substance use is transmitted through the individual's earlier substance use.

Another focus of future research should be on race as the experience of parental incarceration for Black children is disproportionately high. About half (53%) of respondents who experienced maternal incarceration and over a third (34%) who experienced paternal incarceration were Black. This also means that these Black children are at an increased risk of criminal justice contact. Black individuals are already overrepresented in the criminal justice system, and the results of this dissertation showed the significance of maternal incarceration on the odds of criminal justice contact. Therefore, future work should specifically consider the experiences of Black children who have had a mother incarcerated.

Implications

The results of this dissertation have several policy implications. First and foremost, we need more funding for sex education and reproductive rights and health in the United States because my results show that the intergenerational transmission of early parenthood strongly increase the odds of criminal justice contact. Therefore, we need to offer better sex education courses to adolescents and young adults. Studies have shown that better education regarding sex and reproductive health, translates into fewer teenage and unplanned pregnancies (Boonstra 2006; Chin et al. 2012; Kirby, Laris, and Rolleri 2007; Schalet et al. 2014). Going forward scholars need to be cognizant of the intersection between two very powerful social institutions:

1) the family and 2) the criminal justice system. Therefore, when developing policies for decreasing criminal justice contact family planning needs to be incorporated.

In regard to parenthood, this study shows that parental incarceration is strongly associated with increased odds of entering parenthood in early adulthood unless the respondents' academic performance is accounted for. Therefore, these results indicate that education in an important way to temper the influence of parental incarceration on criminal justice contact. Policy should therefore focus on the educational trajectory of those who have experienced parental incarceration and potentially intervene beginning at younger ages. The result also indicated that parental incarcerations significant associated with increased odds of criminal justice contact operated through criminal activity. Therefore, individuals who have had a parent incarcerated may benefit from specific behavioral interventions. Additionally, there needs to be more work that identifies what it is exactly about parental incarceration that increases their children's criminal activity. Perhaps there is more social learning occurring through parenting behaviors that is not captured by parental measures reporting amount of substance use.

In addition, there also needs to be more social support for individuals suffering from economic disadvantage. In 2004, McLanahan wrote about "diverging destinies" and the powerful differences that educational deficits can have on future generations. An additional aspect to this could be how generations of criminal justice contact further exacerbate these diverging destinies. It is plausible that there will be individuals who had both a parent and *grandparent* who were incarcerated, thereby raising new questions on how this concentration of criminal justice contact influences individual mobility? We currently do not have enough social supports for individuals who have had criminal justice contact (Alexander 2010), and this suggests that there is collateral harm to such individuals and their children and grandchildren. Therefore, more social supports

specifically for families affected by the criminal justice system may decrease odds of future criminal justice contact for the next generation.

As a society, we need to do more in terms of substance use rehabilitation for individuals. Research demonstrates that individuals who struggle with substance use are more likely to come into unnecessary contact with the criminal justice system (Bronson et al. 2017). Therefore, one way to decrease this type of contact is to increase the funding for social services offering substance use rehabilitation. The second analytical chapter demonstrated that maternal incarceration was associated with an increase in reported substance use in early adulthood. Therefore, one way to break the intergenerational transmission of criminal justice contact could be more rehabilitative services for those with substance use problems. Additionally, substance use intervention specifically for those who have had a mother incarcerated may prevent this increase in use. In this study, substance use was measured in terms of problems that are associated with use (e.g., inability to do best work at a job or school or getting into fights because of drinking/drug use). This is important because it demonstrated that the substance use interferes significantly with work and personal lives. Therefore, these individuals would likely benefit from *adequate* services that are not limited to those of higher socioeconomic status. Additionally, individuals who struggle with mental health are more likely to have contact with the criminal justice system (Torrey et al. 2014; Kaeble, Glaze, Tsoutis, and Minton 2016). Prisons and jails house *10 times* as many mental health patients as state mental hospitals. Therefore, the United States needs to do more to provide mental health services to those who are in need. If we offered more mental health help this would likely translate into fewer people in our costly jails and prisons.

Conclusion

This dissertation explored the intergenerational transmission of criminal justice contact, as well as the intergenerational factors associated with this process. Parental incarceration had an effect on the respondent's probability of spending time in jail, through an increase in their children's criminal activity. Thus, a parent's incarceration appears to be related to children's broader behavioral profile. Furthermore, respondent's early parenthood is associated with higher odds of spending time in jail, especially in the case of women. These results add a wrinkle that criminologists and future research should consider since parenthood appears to be another intergenerational process influencing the odds of criminal justice contact. While the process through which parenthood influences criminal justice contact is unclear, it is evidently an intergenerational mechanism associated with criminal justice contact.

Maternal incarceration, whether compared to no parental incarceration or paternal incarceration, is also associated with significantly higher levels of substance use in early adulthood and higher odds of being arrested or incarcerated. Because women are more likely to be incarcerated for drug related offenses the significant increase in their child's substance use may indicate modeling. Specifically, children may have seen their mothers substance use, and through social learning began to model those behaviors. Thus, these results suggest that efforts to delay parenthood, particularly for women may lead to not only reduced incarceration but also indirectly to lower levels of substance use. These results highlight a unique effect of maternal incarceration and point to the need to understand the underlying mechanisms better. Notably, paternal incarceration was not associated with the behavioral indicators in young adulthood, but was associated with significantly higher levels of depressive symptoms for men. Maternal incarceration was also associated with higher odds of being arrested and incarcerated indicating

that there is a direct effect between maternal incarceration and the odds of criminal justice contact in a way that is not applicable to paternal incarceration.

Taken together, the results of this dissertation highlight the intergenerational transmission of criminal justice contact and its ramifications for increased substance use and depressive symptoms. This work also highlighted the importance of the intersection between two very powerful social institutions: the family and the criminal justice system. Moreover, the results demonstrated how important it is for our theoretical understanding to disaggregate parental incarceration by gender, to move beyond contrasts between those who were or were not incarcerated, and to instead directly compare the effects paternal and maternal incarceration on children. This dissertation expands on prior work that has demonstrated that parental incarceration negatively influenced various aspects of an individual's life (Hagan et al. 2020; Wildeman 2014; Wildeman and Turney 2014) by broadening the resultant set of outcomes and acknowledging the multiple ways that parents influence their children's health and well-being. Nevertheless, the question of how to promote positive outcomes for children and young adults despite their parent's experience with the criminal justice system deserves in-depth attention. The current national political and social climate suggests a new generation may benefit from efforts to reduce the negative effects of structural racism and incarceration.

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