DOES DISTANCE FROM HOME MATTER IN PRISON? EFFECTS ON VISITATION AND RECIDIVISM

Danielle Nemschoff*

July 31, 2026

Criminal Justice Administrative Records System
Department of Economics
University of Michigan
555 S Forest Ave
Ann Arbor, MI 48104
dnems@umich.edu
Tel: +1-650-863-5373

Abstract

This paper studies how the distance between prison and an incarcerated individual's home affects their likelihood of recidivism. Leveraging a unique dataset covering more than 20,000 incarcerated individuals and over 200,000 prison visits in Washington state, I exploit quasi-random variation in home-to-prison distance generated by facility assignment rules. I find that a 100-mile increase in placement distance raises prison readmission within 3 years by almost 4 percent. This effect is driven by a reduction in visitation, with individuals placed farther from home receiving significantly less visits. While social support is theorized to reduce recidivism, there is limited causal evidence on how maintaining these connections through visitation during incarceration affects recidivism. To address this, I use distance as an instrument for visitation, and find that a 50 percent increase in visitation (equivalent to an additional visit every 2 months) lowers the likelihood of re-incarceration by roughly 3.5 percent within three years post-release. I also show that this shortens the fraction of sentence served by half a percent and reduces housing instability by 6 percent, the former consistent with a reduction in disciplinary action and the latter an important mechanism for successful post-release outcomes. Counterfactual estimates suggest assigning individuals closer to home could reduce recidivism by 2 to 4 percent. JEL Codes: I31 - General Welfare, Well-Being; J18 - Public Policy; K42 - Illegal Behavior and the Enforcement of Law

*I would like to thank Dan Black, Evan Rose, and Dmitri Koustas for helpful comments and invaluable support. This paper also benefited from helpful comments from Terence Chau, Manasi Deshpande, Steven Durlauf, Yana Gallen, Jeff Grogger, Logan Lee, Hamish Low, Eduardo Montero, Derek Neal, Daniel Sonnenstuhl, Haruka Uchida and seminar participants of the University of Chicago Harris PhD Workshop, the University of Chicago Public/Labor Seminar, the University of Chicago Crime Lab, and Institute for Humane Studies Graduate Student Series. Opinions and analysis in this paper do not necessarily reflect the views of the Washington State Department of Corrections. All errors are my own.

1 Introduction

The United States incarcerates more people than any other OECD country[1], and most individuals released from prison eventually return: roughly 87 percent are rearrested and over 60 percent are re-incarcerated within ten years (Fair and Walmsley 2024; Carson and Kluckow 2023). Despite extensive policy efforts to reduce recidivism, empirical evidence on what actually improves post-release outcomes is mixed.[2] Existing research on post-prison reentry spans in-prison programming, sentencing policy, and post-release services, but much less is known about how routine administrative decisions made during incarceration shape reentry success. One such administrative decision is where a person serves their sentence.

Within each state, correctional agencies operate multiple prisons and assign individuals to specific facilities. This assignment determines the distance from a person's home to the prison, which varies widely both across and within states. Distance is meaningful because it shapes whether families can sustain contact during incarceration. Visiting a prison hours away imposes significant time and financial burdens, and family support is widely viewed as important for successful desistance from crime. In recent years, Departments of Correction have begun to explicitly consider proximity to home when making placement decisions. For example, the Federal Bureau of Prisons now instructs placement within 500 miles of the residence (First Step Act, 2019), Arkansas and Hawaii incorporate family contact into placement decisions, and New York requires parents to be placed as close to minor children as practicable (Arkansas General Assembly 2024; Hawaii State Legislature 2024; New York State Department of Corrections and Community Supervision 2023a). Despite this growing attention, there is limited causal evidence on whether distance affects recidivism due to both data constraints and endogeneity concerns.

In this paper, I assemble a unique dataset linking home addresses, facility assignments, and comprehensive visitation records for over 20,000 individuals and 200,000 visits in Washington State. I leverage a key institutional feature of Washington's prison assignment system: placement decisions are based on security classification and capacity constraints, and do not consider proximity to home or family ties. This policy generates plausibly exogenous variation in distance from home, which I use to estimate the causal effect of distance on post-release outcomes.

A 100-mile increase in home-to-prison distance—approximately 1.3 standard deviations—raises the probability of prison re-admission by 0.8 percentage points (a 9 percent increase) within one year of release and by 1.1 percentage points (a 4 percent increase) within three years. To contextualize this distance, a 100-mile trip in Washington typically requires 1.5 to 3 hours of driving, and public transportation options to prisons

1. For comparison, Canada's rate is roughly 85 per 100,000, Germany's is 70 per 100,000, and the United Kingdom's is 130 per 100,000.

2. Doleac (2023) provides a comprehensive overview of empirical studies on programs aimed at reducing recidivism.

are limited.

Distance primarily affects reentry through its effect on in-person visitation. Maintaining contact with family and friends provides emotional and practical support during and after incarceration, and prior research shows that greater distance substantially reduces the likelihood of visits (Casey-Acevedo and Bakken 2002; Duwe and Clark 2013; Cochran et al. 2016). Consistent with this, I find that being placed 100 miles farther from home lowers the probability of receiving any visits by 11 percentage points (a 25 percent decline from a 44 percent baseline) and reduces monthly visits by 0.6 (a 60 percent decline from a baseline of one visit per month).

Research in sociology and criminology consistently highlights the role of social support networks in shaping reentry outcomes. Theories of social and informal control emphasize that strong ties to family, peers, and institutions can deter criminal behavior and promote desistance (see Hirschi (1969), Laub and Sampson (1993), La Vigne and Naser (2006), La Vigne, Shollenberger, and Debus (2009)). One of the main ways individuals maintain contact with their non-incarcerated social network while incarcerated is through prison visitation.[3] A large body of correlational research finds that visitation is associated with lower recidivism. For example, a meta-analysis by Mitchell et al. (2016) finds that visitation is associated with a reduction in recidivism by about 26 percent, and Bales and Mears (2008) report that each additional visit is associated with lower odds of reoffending.[4] However, this literature cannot disentangle whether these effects reflect the causal effect of visitation or the fact that individuals with stronger social ties are both more likely to receive visits and less likely to reoffend.

Other potential channels through which distance might affect recidivism in Washington are less convincing. Prisons of the same security level offer comparable programming, and I find no evidence that distance is systematically correlated with access to programming, education, or prison jobs. Distance is also not correlated with observable characteristics such as age or offense type once security classification is accounted for. This leaves family and social connections as the most plausible mechanism: greater distance raises the direct costs to family and friends of maintaining contact with an incarcerated loved one. Although individuals can communicate through letters, phone calls, or video visits, these alternatives are also costly and, importantly, are not impacted by distance. Together, this points to visitation as the primary pathway through which distance affects reentry outcomes.

I next estimate the causal effect of visits on recidivism by using prison-to-home distance as an instrument. I find that each additional visit per month of incarceration reduces one-year recidivism by 1.4 percentage points (a roughly 14 percent reduction) and three-year recidivism by 1.9 percentage points (a roughly 7

3. Depending on the jurisdiction incarcerated individuals may also write letters, talk on the phone, and participate in video calls.

4. Other studies include Ryan and Yang (2005), Mears et al. (2012), Duwe and Clark (2013), and Cochran (2014).

percent reduction). This effect is comparable in magnitude to the impact of expanded welfare access documented by Palmer, Phillips, and Sullivan (2019), who find a 10 percent decrease in re-incarceration within one year of release. Given that the average number of visits per month is 1 visit, one additional visit therefore represents a large increase in treatment. Scaling estimates down to 1 visit every 2 months yields estimates closer to a 3.5 percent reduction in recidivism at 3 years.

Beyond recidivism, I also examine the effect of visitation on time served. During intake, individuals receive an Earned Release Date reflecting a potential reduction of 10 to 50 percent of their sentence. Earned release time can be revoked for disciplinary infractions, so the fraction of initial sentence actually served proxies for disciplinary behavior in prison. I find that an additional visit per month reduces the fraction of a sentence served by one percent, which is equivalent to about 5 fewer days at the median untreated sentence length of 517 days. Combining the reduction in days served of the current sentence with the decrease in future re-incarceration, an additional visit per month lowers total time served in the five years following sentencing by 25 days. At an estimated cost of $174 per incarcerated individual per day, this translates into approximately $4,350 in savings per person.

To understand how visits improve reentry outcomes, I examine a key mechanism: access to stable housing after release. Stable housing is central to successful reentry, and many individuals leaving prison face housing insecurity. In Washington State, individuals without an approved release address cannot be released at their earned release date. To avoid continued incarceration solely due to lack of housing, the Department of Corrections issues housing vouchers to all eligible individuals. Voucher receipt therefore provides a direct measure of housing instability. I find that an additional visit per month reduces reliance on housing vouchers by 12 percent. Additionally, address verification for release begins six months prior to release, and I find that receiving visits near the end of a prison spell has the strongest effect on reducing voucher use.

Building upon these results, I simulate placement under alternative regimes that prioritize proximity to home and calculate the resulting effects on recidivism. First, I do this without constraints and then I impose security level and facility capacity constraints. When placement policies emphasize assigning individuals to facilities closer to home, subject to capacity and security level, the predicted effect is a 0.3 percentage-point reduction in recidivism within one year of release and a 0.4 percentage-point reduction in recidivism within three years of release. Relative to the non-treated baseline recidivism rates, these correspond to a 3 and 1.4 percent reduction.

This project contributes to a large literature on recidivism and interventions aimed at reducing recidivism. Prior work has examined interventions ranging from incarceration itself, such as Bhuller et al. (2020a), who leverage a random judge design in Norway to show that incarceration can reduce future offending, to diversion programs, with Mueller-Smith and Schnepel (2021) documenting large reductions in recidivism. Other

studies emphasize interventions within prisons. Alsan et al. (2025) demonstrate that an education program in county jails reduces both misconduct and reoffending, while Lee (2019b) finds that none of the prison programming in Iowa decreased recidivism. Beyond incarceration, studies have shown that improving labor market opportunities can lower reoffending by increasing the outside option to crime (Agan and Makowsky 2018b), and that DNA databases can significantly reduce recidivism by raising the perceived probability of detection (Doleac 2017). Evaluations of reentry programs providing wraparound services often report null effects (Doleac 2019; Grommon, Davidson II, and Bynum 2013; Cook et al. 2015; Wiegand and Sussell 2016; D'Amico and Hui 2018), although some evidence suggests that expanding access to welfare programs such as the EITC and food stamps can reduce recidivism (Yang 2017; Tuttle 2019). This paper examines prison placement as a policy margin that indirectly shapes reentry outcomes.

Closely related work includes Lee (2019a) and Andersen, Fitzpatrick, and Wildeman (2024), both of which use variation in distance to estimate the effects of visitation and find no statistically significant impact on re-admission to prison. Lee (2019a), using data from Iowa, reports estimates that are qualitatively similar to mine, but with a smaller sample and less precision. With a sample approximately twice as large, I obtain more precise estimates and additionally show that visitation affects post-release housing stability. Andersen, Fitzpatrick, and Wildeman (2024) study visitation in Denmark using variation in distance and prison capacity and likewise find no effect on recidivism. However, the Danish institutional context differs substantially from the U.S., with higher visitation rates, a legal right to visitation, shorter sentences, and a more robust social services system.

This paper also contributes to a broader literature on prison environments. d'Este (2025) study the effects of a ban on synthetic drugs on in-prison drug use and violence, while Calamunci et al. (2025) examine the impact of single-gender prisons on recidivism for women. Chen and Shapiro (2007) analyze the effect of prison security level and harshness of the prison environment on post-release outcomes. Most closely related, Weber (2020) study the effects of distance from home but rely on a proxy measure, as prison placement and associated distance are not directly observed. In this paper, I instead measure distance directly.

This project further contributes to a growing body of economics literature examining the role of familial bonds in shaping criminal justice outcomes, such as the effect of parental criminal justice involvement on children's long-term criminal behavior and well-being (e.g., Dobbie et al. (2018), Arteaga (2023), Finlay, Mueller-Smith, and Street (2023), and Norris, Peceno, and Weaver (2021)) and the relationship between family formation and parents' future criminal activity (Massenkoff and Rose 2024). This paper contributes by examining prison visitation, which is one of the key ways in which families interact with their incarcerated loved ones.

The paper proceeds as follows: Section 2 provides institutional background information on how incar-

cerated individuals are placed in prisons and how visitation works, Section 3 describes the data, Section 4 details the empirical strategy, Section 5 presents results, Section 6 discusses the housing mechanism, Section 7 simulates alternative placement policies, and Section 8 concludes.

2 Background

2.1 Facility Placement

The Washington Department of Corrections (WADOC) is responsible for the oversight of all men and women sentenced to state prison and community supervision in the state of Washington. After sentencing, all individuals convicted of a new crime are transferred to the reception prison facility. The reception center for men is the Washington Corrections Center and the reception center for women is Washington Corrections Center for Women.[5] Incarcerated individuals spend an average of 30 days in the reception center where they undergo an intake process formally called classification. The goal of classification is to determine the incarcerated individual's risk for re-offense, what programming is best suited for them and what if any medical care they require.

As part of the intake process, each individual is assigned a recidivism risk score based on a range of factors, including demographics, current offense and sentence, criminal history, substance use history, and family structure.[6] This type of risk-based classification is not unique to Washington; similar systems are widely used across the country to categorize incarcerated individuals. In Washington, individuals are assigned to one of several risk categories: low risk, moderate risk, high drug risk, high property risk, high violent risk, or high diverse risk (indicating high risk across violent, drug, and property offenses). The classification system is hierarchical: high diverse supersedes high violent, which supersedes high drug , which in turn supersedes high property, moderate, and low. For example, an individual assessed as both high violent and high property will be classified as high violent; someone assessed as both high property and high drug will be classified as high drug.

The risk classification helps determine an incarcerated individual's initial security level, referred to as the Initial Custody Designation in Washington state. Individuals can be designated as "close custody", "medium custody, or "minimum custody."[7] Specific facility placement is then based on this custody classifi-

5. Reception centers are regular prison facilities that have been designated as a reception center. These prisons can also house incarcerated people for their entire sentence.

6. This score is generated using the Washington Offender Needs Evaluation tool, which applies a weighted point system to produce an objective assessment of felony re-offense risk.

7. One subset of minimum custody is MI3 custody, which requires individuals to be placed in the same type of facility as medium custody individuals, and so I classify these individuals as medium custody as well. Individuals placed directly into community supervision are those serving less than 1 year and are designated as MI1 custody. WADOC also operates maximum security housing, which is a higher security designation than close custody. However, this is not one of the Initial Custody Designations but is assigned based on behavior while incarcerated.

cation in combination with the individual's programming needs (including work, education, and treatment, when applicable), as well as health requirements, safety concerns, and institutional capacity. According to Washington Department of Corrections policy, individuals are to be placed in the least restrictive facility that can accommodate both their programming and security needs. Importantly, incarcerated individuals have no input in their placement, and placement decisions are not subject to appeal.

As program availability is an explicit input to placement, it is useful to consider how programming varies across facilities. All facilities offer basic education/GED, sobriety support (e.g., AA), and prison employment. Each facility also runs an animal-training program. Beyond these basics, offerings differ: some prisons provide vocational programs (e.g., construction trades, vehicle maintenance) or sustainability initiatives, and work opportunities vary (e.g., metal shop versus upholstery). These differences are largely stable over my study window and will be addressed in my empirical strategy.

The initial placement facility is the facility in which an incarcerated individual will serve either their entire sentence or the majority of their sentence. In my data fifty-six percent of incarcerated individuals are released from the same facility they are initially placed in. Incarcerated individuals generally re-do the risk assessment questionnaire every six months to determine if there are changes to their security classification or programming needs. If an incarcerated individuals security level has been downgraded based on program participation, lack of infractions and time served they may be transferred to a lower security facility if capacity allows. Alternatively, an incarcerated individual can be moved to a higher security facility due to disciplinary infractions. Incarcerated individuals may also request transfers, which are considered conditional on security classification and capacity constraints.[8] All transfers can be impacted by prisoner behavior or preferences, and so I will solely focus on initial placement facility in my empirical strategy.

Between 2010 and 2019 Washington state had ten facilities for men and two for women.[9] Seven of the ten male facilities in Washington state house incarcerated individuals of various custody levels, while three house only minimum security incarcerated individuals. There are five facilities that can house close custody individuals, seven for medium security and eight for minimum. Both women's facilities house minimum custody incarcerated individuals and one additionally houses incarcerated individuals with higher level custody classifications. A map of the current prison facilities is provided in Figure 1.

8. Of those who do not stay in their placement facility 44 percent are released from a work release facility or reentry center (both are minimum level facilities meant to help incarcerated individuals at the end of their sentences), 32 percent are released from a facility further from home (can include work release facilities), and 65 percent are released from a facility closer to home (can include work release facilities).

9. There was one facility that closed over this time period. I exclude this facility and anyone placed in it from all analysis.

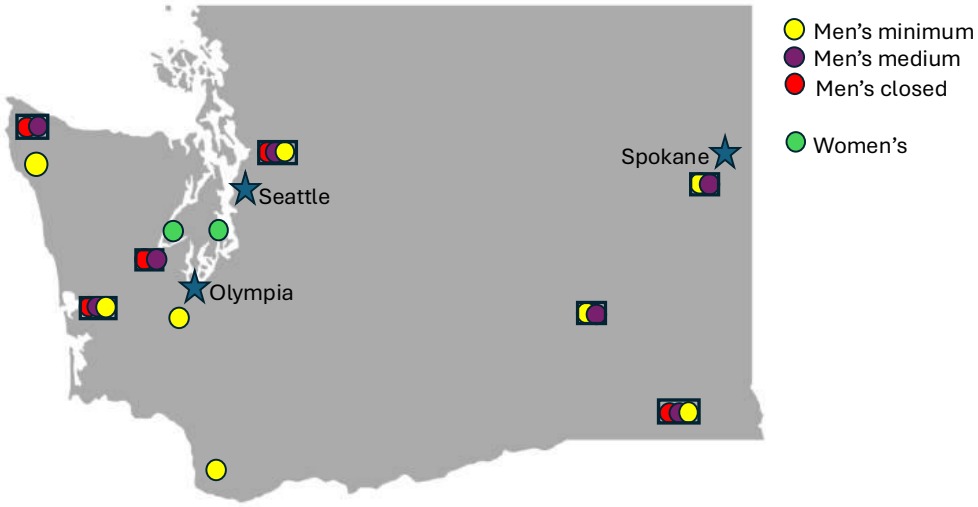

Figure 1: Washington State Prisons

Notes: This figure plots the location of all state prison facilities. Locations are based on Washington Department of Corrections facility addresses. Yellow dots denote men's minimum security facilities. Purple dots denote men's medium security facilities. Red dots denote men's close security facilities. Green dots denote women's facilities. Some facilities house multiple security levels. Boxes with multiple colored dots indicate a prison facility that houses multiple security levels. Blue stars denote the three largest cities: Seattle, Olympia and Spokane. These are the three largest population centers in Washington.

As indicated by Figure 1, facilities are spread across the state resulting in substantial variation in home-to-facility distances across incarcerated individuals. Figure 2 illustrates the distribution of incarcerated individual placement distances, showing that incarcerated individuals are housed between zero and three-hundred miles from home, with a median distance of ninety-nine miles.

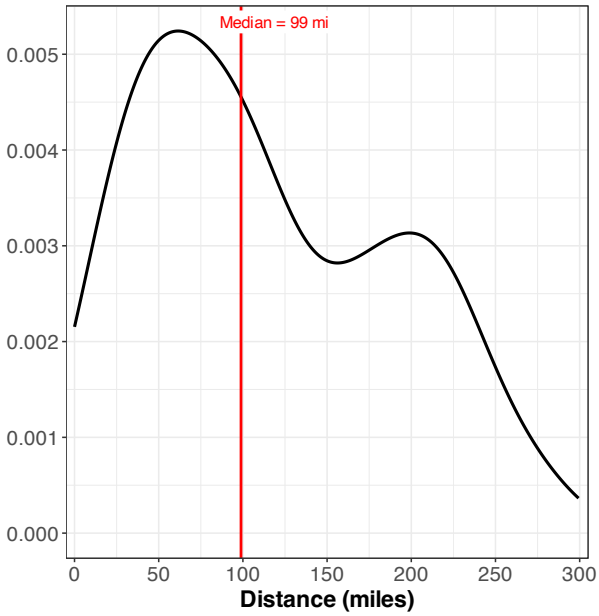

Figure 2: Distance Distribution

Notes: This figure presents the distribution of placement distances for individuals incarcerated in Washington state from 2010 through 2016. Distance is measured in miles from the center of an individual's home county to their assigned prison facility. The red line shows the median placement distance of 99 miles. Data comes from Washington Department of Corrections admissions data which includes each individual's home county and placement facility.

2.2 Visitation

Across the United States, including in Washington, visitation by family and friends is considered a privilege rather than a guaranteed right.[10] However, all prison facilities in the state permit some form of visitation, including in-person contact visits, non-contact visits, video visits, and overnight family visits. This aligns with the practice of most other states—Washington falls within the majority of states that Boudin, Stutz, and Littman (2013) characterize as promoting visitation in official policy. Across jurisdictions, in-person contact visits are the primary mode of visitation, and Washington follows this pattern, with approximately ninety-nine percent of visits being in-person contact visits.[11] This paper studies in-person contact and non-contact visits.[12]

There are two main categories of visitors: professionals (such as legal teams and clergy) and family and friends. This paper specifically examines visits by family and friends and abstracts from the effect of professional visitation. By law, all incarcerated individuals nationwide are guaranteed the right to legal visits

10. Attorney visits are legally protected.

11. Contact visits allow for brief physical contact at the beginning and end of visits and are generally held in a communal visitation room. Non-contact visits forbid any form of contact and may be held in rooms where visitors are separated from incarcerated individuals by glass or another physical barrier.

12. Overnight visits are extremely rare with only 4 states allowing them. Video visitation is becoming more common but still puts Washington in the minority.

and so this is not the policy relevant channel. In Washington, each facility sets its own visiting hours and guidelines, which are posted on their respective websites. Closures are also posted on the website. Generally, in-person visits are permitted on Friday, Saturday, Sunday and Monday in the afternoons and evenings. For example, visiting hours for the Minimum Security Unit at the Monroe Correctional Complex, the largest prison in Washington, are Fridays and Mondays from 1pm to 5:30pm and 6pm-8:30pm and Saturdays and Sundays from 1pm-8:30pm. Visits operate on a first-come, first-served basis, and entry may be denied if the visitation room reaches capacity.[13]

To participate in visitation, individuals must submit a visitor application, undergo a review process by the Department of Corrections, and receive approval from both the department and the incarcerated person. The review process includes identity verification and a criminal history background check. While a criminal record does not automatically disqualify someone from visiting, certain individuals, such as victims of the incarcerated person's crimes, co-conspirators, and those currently on community supervision with restrictions on interacting with known criminals, are generally denied visitation. Visitors may only be on one incarcerated individual's approved visitor list at a time unless they have multiple immediate family members who are incarcerated. Minors are permitted to visit but must be accompanied by a non-incarcerated legal guardian or designated escort. At the time of their visit, all visitors must have a current photograph on file, present valid photo identification, and be on the incarcerated individual's approved visitor list.

The Washington DOC provides limited travel assistance for visitors who live more than 150 miles away, reimbursing up to $50 for gas or lodging no more than twice a month. To qualify, visitors must apply at least 10 days in advance, submit receipts after the visit, and then wait for reimbursement, which is only issued once a month on the 10th. At 2010 gas prices ($2.90 per gallon), driving 300 miles round trip would require about 12 gallons of fuel, or roughly $35, which does not include potential overnight lodging. Because the support comes in the form of reimbursement rather than upfront assistance, many families may lack the resources to cover these costs in advance. Moreover, with the median incarcerated individual placed 99 miles from home, most visitors are not eligible for this program.

3 Data

The data for this project come from Washington Department of Corrections records and include every individual to prison admitted on or after January 1, 2010 and released as of December 31, 2016.[14] Each

13. Visits are only recorded if they are completed. There is no record if someone showed up for visitation but was denied access or capacity was reached.

14. Given that the data spans from 2010 to 2016, the maximum sentence an individual in this sample can serve is 6 years, thereby excluding anyone with a longer sentence or a life sentence. However, at most 1 percent of individuals admitted per year are sentenced to life and only between 1-7 percent of individuals are sentenced to longer than 6 years, meaning that this restriction is not particularly consequential.

observation is at the prisoner-spell level as some prisoners can exit and re-enter prison more than once in this time period. Most people appear only once, but 12 percent of individuals do appear more than once in my data. Data includes date of entry, date of release, sentence length, crimes committed, race, gender, date of birth, county of sentence, number of previous prison admits and those associated crimes, initial prison facility assignment, the prison facility released from, whether the individual is released into community supervision, the address a person moves to when released, the name of the person responsible for the incarcerated individual's post-release housing and whether the individual is re-admitted to prison within three years of release.

The outcome of interest is readmission to prison for a new criminal offense. The data on prison admissions for community supervision violations do not allow for a clear distinction between technical violations and new criminal conduct, as new crimes may be recorded as violations, and the type of readmission is inconsistently classified.[15] To address this ambiguity, I define recidivism as readmission to prison accompanied by a new sentence, which provides a cleaner and more consistent measure. The one year recidivism rate is 10 percent and the three year recidivism rate is 28 percent putting Washington state below the national average of around 37 percent (Gelb and Velazquez 2018).

Importantly for my project, the data additionally include all visits each incarcerated individual received during their prison spell. This includes information on the date of the visit as well as the relationship of the visitor, the visitor's age, and the visitor's home county.

I make several sample restrictions. I limit the sample to men with a non-missing home ZIP code in Washington state whose placement facility was a standard facility (not a medical center or work release facility) as their initial placement.[16] Visits are limited to only those from family or friends whose home county is within Washington state. Table 1 presents summary statistics on the study sample. The data covers more than 24,000 unique spells in prison with an average incarcerated individual spending 11 months incarcerated. Just under half of the sample ever receives a visit. The restriction to men is due to there only being two women's facilities and only one of those facilities houses anyone above minimum custody. The restriction to incarcerated individuals and visitors from within Washington state is because I can only observe individuals who are re-admitted to prison within Washington state, and so I would like to capture the population likely remaining in Washington post-release. Importantly, if someone is incarcerated in another state after their release in Washington they will be classified as a non-recidivist in my data. One factor that eases this concern is that approximately 70 percent of the individuals in my sample are released under community supervision, which mandates release to an approved address within the sentencing county. This requirement reduces the

15. Violators can be sent to specific violator facilities, or to prison for up to 3 week sanctions, or can be re-confined to prison depending on context and so are not always captured accurately in the prison admission data.

16. I drop Garfield and Wahkiakum counties due to extremely small sample size.

likelihood that the majority of individuals will move out of state, at least during the first year after release. Additionally, Harding, Morenoff, and Herbert (2013) found that only 1.2 percent of prisoners from Michigan had an out-of-state address 2 years post-release, which suggests that formerly incarcerated individuals may not move out-of-state very often.

Table 1: Main Sample Descriptive Statistics

	Overall	Never Visited	Visited
N Incarceration Spells	24,338	13,563	10,775
N Incarcerated Individuals	21,389	12,090	10,113
% First admit	0.52	0.49	0.55
Median time served (days)	329	270	423
Median sentence length (days)	578	517	669
% Property crime	0.34	0.34	0.33
% Drug offense	0.25	0.26	0.25
% Violent offense	0.17	0.13	0.22
% Sex offense	0.05	0.04	0.06
% White	0.62	0.59	0.67
% Black	0.15	0.17	0.13
% Hispanic	0.13	0.14	0.12
% Native American	0.05	0.06	0.04
% Asian	0.03	0.04	0.03
Mean Age at admit	33.5	35.06	31.52
% Visited	0.44	0.00	1.00
Mean No. visits per month	0.91	0.00	2.05
Median placement distance (miles)	98.65	111.94	86.37
% Readmitted within 1 year	0.09	0.10	0.07
% Readmitted within 3 years	0.26	0.28	0.22

Notes: This table presents summary statistics for all men incarcerated in Washington state prisons admitted on or after January 1, 2010 and released by December 31, 2016. Data is at the prison spell level. Incarcerated individuals are categorized as "visited" if they received one or more visits during the given spell. Offense types are not mutually exclusive and are binary indicators for if any of the crimes associated with the current spell fall in the given category. Crime category definitions are taken from the Revised Code of Washington. Distance is calculated as the Euclidean distance from the geographic centroid of a prisoner's home ZIP code to the geographic centroid of their placement facility's ZIP code. Data comes from Washington Department of Corrections records and statistics are calculated by the author.

After imposing my sample restrictions, my estimation sample of visits covers over 200,000 visits and about 23,000 unique visitors. Table 2 presents descriptive statistics. The plurality of visits are from parents, and this is predominantly by mothers. Friends are the next most frequent visitor. It is important to note

that "friend" could encompass a partner and/or co-parent – so long as they are not married they are coded as "friend". I define a category called "partner" for visitors who are of the opposite sex as the incarcerated individual and is within a 5 year age-range of the incarcerated individual. The vast majority of friend visitors fall into this category.

Table 2: Visit Descriptive Statistics

N visits	207,501
N visitors	23,058
% of visited incarcerated individuals who get only one visit	0.09
% of visitors who visit only once	0.28
Mean days between visits for incarcerated individual	17.65
Mean days between visits for visitor	49.84
% of visits by visitor relationship	
% Parent	0.35
% Mom	*0.25*
% Friend	0.31
% Partner	*0.25*
% Child	0.08
% Spouse	0.07

Notes: This table presents summary statistics for all prison visits by family and friends for men incarcerated in Washington state prisons admitted on or after January 1, 2010 and released by December 31, 2016. Visitors can only visit Friday-Monday, so days between visits includes the fact visitors cannot visit for 5 days. "Mom" is a sub-category of "parent" - 70% of parent visits are by a mom. I define "Partner" as a sub-category of"friend" - 80% of friend visits are by a partner. Partner is defined as a visitor of the opposite sex within a 5-year age range of the incarcerated individual. Data comes from Washington Department of Corrections visitation records and statistics are calculated by the author.

In addition to my primary sample, I utilize supplementary risk assessment data available for all individuals incarcerated in 2018 or later.[17] This dataset includes each person's overall risk score, subcomponent scores for violent, drug, and property-related offenses, as well as responses to all underlying assessment items. These items cover domains such as family structure, peer associations, physical and mental health, substance use history, prior labor market attachment, program participation, and attitudinal measures. Although this dataset does not overlap with my main analytic sample, I use it to validate my empirical strategy and provide descriptive evidence on the relationship between individual characteristics and prison placement. Summary statistics for this supplementary sample can be found in Appendix Table A12.

17. WADOC switched to a new risk assessment tool, the Washington Offender Needs Evaluation Tool, in 2018 and this is the data that was readily available.

4 Empirical Strategy

This section outlines my empirical strategy for identifying the causal effect of both prison distance and visits on recidivism. I begin by outlining my research design to estimate the causal effect of prison distance on recidivism. I then examine visits as the core mechanism linking distance to recidivism, which motivates an instrumental variables strategy using distance as an instrument for visits to estimate the causal effect of visitation on recidivism.

4.1 The Effect of Distance on Recidivism

To estimate the effect of distance on recidivism, I estimate the following equation:

$$R_{is} = \beta_1 Dist_{is} + W'_{is}\beta_2 + \lambda_{t(is)} + \delta_{f(is)} + \theta_{h(is)} + \epsilon_{is} \tag{1}$$

where R_{is} is a binary indicator for recidivism for individual i serving spell s. Recidivism is measured as both a binary indicator for re-admit within 1 year of release and within 3 years of release. $Dist_{is}$ is placement distance from home, calculated as the Euclidean distance (in 100-mile units) between the geographic centroid of individual i's home ZIP code and the centroid of the ZIP code of their placement facility in spell s.[18] W_{is} includes controls for race, an indicator for whether this is individual i's first spell in prison, the class of worst crime committed for spell s, sentence length of spell s, individual i's age at admit for spell s, and an indicator for whether the sentence comes with mandatory time under community supervision after release.[19] $\lambda_{t(is)}$ are admit year fixed effects, $\delta_{f(is)}$ are placement facility fixed effects, and $\theta_{h(is)}$ are home county fixed effects. Standard errors are clustered at the individual level since some individuals serve more than one spell in my data and I want to allow for within-individual correlation.[20]

4.1.1 Identification

Let $R_{is}(z)$ be the potential recidivism outcome for individual i serving spell s when placed at distance z. Let C_{is} collect crime type, sentence length, prior admit history, and facility and county fixed effects. The identifying assumption is:

$$\left\{ R_{is}(z) : z \in [0, z_{max}] \right\} \perp Dist_{is} \mid C_{is}.$$

18. Another option would be to use drive-time rather than Euclidean distance. However, drive-time and distance are highly correlated as shown in Appendix Figure A1.

19. Crimes are classified as violent, sexual, property, drug or other. Sentence length is used rather than time served because time served can be impacted by incarcerated individual behavior while incarcerated which could be impacted by treatment (visitation) If an individual is released prior to their sentence end due to Earned Release Time, they will also be placed into community supervision. This indicator is for whether or not the initial sentence included mandatory time under community supervision if the full sentence is served.

20. Versions with clustering at the ZIP code level and county level to allow for within-geography and within-jurisdiction correlation are shown in Appendix Table A17 and Table A18.

In words, conditional on crime type, sentence length, prior admit history, home county, and placement facility, distance is independent of potential recidivism outcomes. Crime type, sentence length and prior admit history are the main determinants of security level, which is a main determinant of facility placement. The remaining elements of W_{is} are included to improve precision. Identifying variation comes from the fact that, even within a given security level and county, not all individuals are sent to the same facility, and within a given facility there are individuals from multiple counties.

Proxying for security level. Facility assignment in Washington is determined primarily by an incarcerated individual's security classification: minimum, medium or close. While I do not directly observe security level in the data, I demonstrate that the combination of observable prior incarceration history, sentence length and crime type create a reliable proxy. Although many facilities house incarcerated individuals across multiple security levels, some facilities are designated for only minimum-security individuals, while others do not accommodate those above medium security, as illustrated in Figure 1. If the constructed security classification is valid, individuals labeled as"close" should be effectively excluded from minimum-security-only facilities, and those labeled "minimum" should be excluded from higher-security prisons. To assess this, I compute the share of individuals actually placed at each facility for each constructed security level. The results show that individuals assigned to "close" security have less than a 1 percent probability of assignment to any of the three minimum-security-only facilities (Olympic Corrections Center, Larch Corrections Center, Cedar Creek Corrections Center) and those classified as "minimum" have a 5 percent or lower probability of being assigned to the two facilities that do not house minimum-security incarcerated individuals (Washington Corrections Center, Clallam Bay Corrections Center).[21] While exceptions may exist due to individual-specific considerations (e.g., gang affiliation, safety concerns, medical needs), the security proxy performs well overall. Figure A2 in the Appendix presents these results.

To the extent that this proxy imperfectly captures true security level, some residual variation in security classification may remain. Any remaining bias would require unobserved components of security classification to be systematically related to both distance and post-release outcomes. I show in Table 3 that other observable characteristics of concern, such as age and family structure, are not correlated with distance.

4.1.2 Validity

Geographic confounders. To separate the effect of distance from other geographic confounders, I include home county and facility fixed effects in all specifications. Although placement is quasi-random, nearly half of

21. While Coyote Ridge Corrections Center does not house close security individuals, it does house long-term minimum security level individuals. This can be individuals with long sentences for violent offense but who are not classified as needing restrictive housing.

Washington's population resides in the Seattle–Tacoma metropolitan area, so the distance between prisons and homes may reflect proximity to the population center. This matters because distance could capture systematic differences in urban versus rural home-county environments or facility characteristics rather than only distance from family and friends. For example, rural facilities may have different pools of staff to draw from and may have different lodging options available to visitors, which would confound the effect of distance itself. With additive fixed effects for both home county and placement facility, identification comes from comparing individuals from the same home county placed in different facilities and individuals in the same facility coming from different counties.

Balance tests. After residualizing distance with respect to crime type, sentence length, criminal history, home county, and placement facility, an incarcerated individual's pre-determined characteristics should not systematically predict how far they are placed from home. To assess this, I regress distance (measured in one-mile units) on the individual's race and age at admit in separate regressions, including controls for crime type, sentence length, criminal history, home county, and placement facility. I additionally test whether the type of programming an individual participates in while in prison can be predicted by distance. Specifically, I test whether distance is correlated with participation in parenting classes, any educational class (GED-prep, college courses, college readiness, HS level classes, ESL), being in a work crew (fire fighting for the Department of Natural Resources), having a prison job, participating in special reentry planning classes, or being in an undisclosed course. Undisclosed courses include prescribed mental health and substance abuse programming. Results are shown in Table 3. Race, age and programming are not correlated with home-to-prison distance.[22]

When explicit placement policies exist in other jurisdictions, they are related to the placement of families. Although WADOC policy does not formally account for family ties or proximity in placement decisions, such considerations could still influence actual placements. If individuals with children or close families are placed closer to home, the impact of distance may be conflated with the influence of an underlying social support network. I use supplementary risk score data available for individuals incarcerated between 2018 and 2020 to test whether indicators of family connections, including having children, being married or in a long-term relationship, and reporting good relationships with family, are correlated with placement distance. While the main sample covers 2010 through 2016, placement policies did not change from this period through 2020, so this supplementary data reflects the same assignment process as in my main sample. I find no evidence of such correlations between positive family relationships and placement distance. Results are presented in the "Family and Risk" section of Table 3.[23]

22. Reentry planning is correlated with distance but in the opposite direction of concern.
23. Full balance results for the supplementary sample can be found in Appendix Table A13.

Table 3: Balance on Distance to Initial Placement

	Coefficient
Demographics (main sample)	
Non-white	0.3024
	(0.8141)
Age at admit	0.0238
	(0.0371)
Programming Participation (main sample)	
Parenting program	0.0011
	(0.0010)
Education	0.0002
	(0.0009)
Work crew	0.0003
	(0.0014)
Prison job	0.0057
	(0.0039)
Reentry planning	0.0025*
	(0.0010)
Undisclosed	-0.0080
	(0.0041)
Family and Risk (supplementary sample)	
Long-term partner	-2.003
	(6.3508)
Children	4.550
	(6.295)
Good family relationship	4.478
	(6.866)
Low-risk	-8.620
	(7.038)
Moderate-risk	-7.910
	(9.932)
High-risk	10.037
	(6.300)
Observations (main sample)	24,338
Observations (supplementary sample)	590

Notes: ***: 0.01, **: 0.05, *: 0.1. This table presents correlations between distance and observable characteristics, prison program participation, family relationships, and DOC-calculated recidivism risk. Each row is a separate regression of distance (in 1-mile units) on the given pre-determined characteristic or programming indicator, controlling for crime type, sentence length and first admit status, with fixed effects for admit year, placement facility, and home county. Standard errors clustered at the individual level are in parentheses. Demographics and programming regressions are estimated using the main sample. Family and Risk regressions are estimated using the supplementary sample of individuals incarcerated between 2018–2020 with intake records. Risk is WADOC's recidivism classification, calculated at intake. High-risk combines individuals classified by WADOC as high risk of drug crime re-offense, high risk of property crime re-offense, and high risk of violent crime re-offense. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

4.2 The Effect of Visitation on Recidivism

Visiting an incarcerated individual in prison requires time, travel, and resources, meaning individuals placed farther from home may be less likely to receive visits, (see, e.g., Casey-Acevedo and Bakken (2002); Duwe and Clark (2017); Cochran et al. (2016); Lee (2019a)). Ex ante, it is not obvious whether visitation improves or worsens reentry outcomes. Some visitors may offer emotional support, stability, or tangible resources that facilitate reintegration. Others, however, may reinforce harmful behaviors, relationships, or stressors. As such, the effect of visitation on recidivism is ultimately an empirical question.

To estimate the causal effect of visitation on recidivism, I employ an instrumental variables framework with distance as an instrument for visitation and estimate the following set of equations:

$$R_{is} = \gamma_1 V_{is} + W'_{is}\gamma_2 + \lambda_{t(is)} + \delta_{f(is)} + \theta_{h(is)} + e_{is} \tag{2}$$

$$V_{is} = \alpha_1 Dist_{is} + W'_{is}\alpha_2 + \lambda_{t(is)} + \delta_{f(is)} + \theta_{h(is)} + u_{is} \tag{3}$$

where R_{is} is the recidivism outcome for individual i serving prison spell s. As above, recidivism is measured as either a binary indicator for re-admit within 1 year of release and within 3 years of release. V_{is} is the count of visits incarcerated individual i received in spell s normalized by the number of months served in spell s. I use this count specification as the primary measure of visits, and as a complement, I also estimate a binary specification indicating whether an individual received any visits. $Dist_{is}$ is the distance from home to prison. W consists of race, an indicator for whether this is individual i's first spell in prison, the class of worst crime committed for spell s,[24] sentence length for spell s individual i's age at admit for spell s, and an indicator for whether the sentence comes with mandatory time under community supervision after release. $\lambda_{t(is)}$ are admit year fixed effects, $\delta_{f(is)}$ are placement facility fixed effects, and $\theta_{h(is)}$ are home county fixed effects. Standard errors are clustered at the individual level.

Let $R_{is}(v)$ be the potential outcome for individual i serving spell s who receives V_{is} visits per month. Let C_{is} denote crime type, sentence length, prior admit history, and facility and county fixed effects. Interpretation of the estimated effect $\hat{\gamma_1}$ as the causal effect of visitation on recidivism, requires the following assumptions:

1. Relevance (First stage):
   $\mathbb{E}\big[\, V_{is} \mid Dist_{is} = z_1,\, C_{is}\big] \;<\; \mathbb{E}\big[\, V_{is} \mid Dist_{is} = z_0,\, C_{is})\big] \quad \text{for } z_1 > z_0.$

2. Exogeneity and Exclusion:
   $\big\{\, R_{is}(v) : v \in [0, v_{max}]\big\} \;\perp\; Dist_{is} \;\big|\; C_{is}.$

24. Crimes are classified as violent, sexual, property drug or other.

Relevance requires that distance shifts visitation, and in this setting, distance weakly reduces the number of visits an incarcerated individual receives per month in prison. Exogeneity requires that, conditional on crime type, sentence length, criminal history, placement facility, and home county, distance is independent of potential recidivism. Exclusion requires that distance influences recidivism only through its effect on treatment intensity (the number of visits received).

For distance from prison to an incarcerated individual's home to be a relevant instrument for visits, this distance must influence the incarcerated individual's potential visitors. This implies that an incarcerated individual's potential visitor pool must reside near their home. As reported by the New York Times (Bui and Miller 2015), the average American only lives about 18 miles from their mother, and those who do live further are often highly educated and wealthy, characteristics that do not often define the population of people who end up incarcerated. Individuals who are incarcerated often have limited work history and make well below the average income even prior to incarceration (Looney and Turner 2018). Therefore, home county is likely a valid proxy for the location of an individual's pool of potential visitors. Furthermore, Table 5 and Figure 3 show that the distance from an incarcerated individual's home to their first facility is highly correlated with whether they receive any visits and with how many visits they receive.

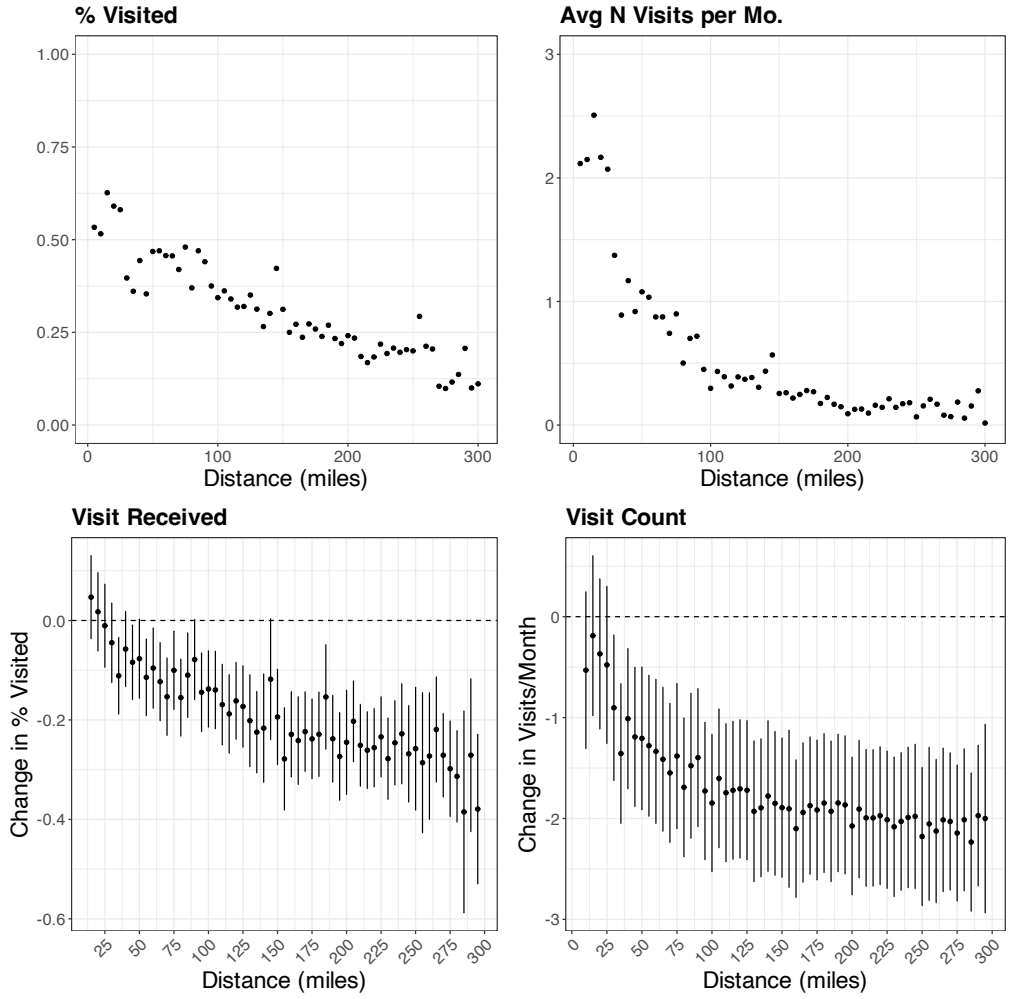

Figure 3: First Stage

Notes: This figure illustrates the relationship between distance and visitation rates. In the left panel, visits are normalized by number of months spent in prison. Distance is calculated from each incarcerated individual's home county to their original placement facility. The right panel plots the rate of visitation. Averages are taken over 5-mile buckets. The top two figures plot the raw data, the bottom two figures present the residualized first stage - coefficients from the regression of visitation on dummies for 5-mile distance buckets and covariates. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Another identification assumption is that, conditional on sentence length, crime type, and recidivist status, home county, and placement facility, facility assignment is independent of an individual's recidivism risk. A natural concern is that social support could confound the effect of visitation if individuals with stronger family ties both receive more visits and are less likely to reoffend. Exogeneity would also fail if distance were correlated with predetermined characteristics or access to prison programming that independently predict recidivism. As discussed in Section 4.1, there is no evidence of such correlations: balance tests (Table 3) show that demographics, offense type, prior incarceration, program participation, and proxies for social support

are not systematically related to placement distance. This supports the exogeneity of distance in this setting.

Exclusion requires that distance influences recidivism only through its impact on the number of visits received. One potential concern is that distance may proxy for differences between rural and urban environments, since most individuals come from the Seattle metropolitan area and prisons farther from Seattle tend to be more rural. While rural placement could, in principle, matter through local labor markets or community conditions, incarcerated individuals do not leave the facility during their sentence, so the external community should not directly affect them. In addition, it is WADOC policy that all individuals must return to their sentencing county upon release, so neither prison location nor distance determines the setting of reentry.[25]

While the external environment is unlikely to matter directly, the facility's geographic location could still influence the quality of incarceration, particularly through staffing or prison facility conditions. If prisons draw staff from the surrounding area, geographic variation in local labor markets could shape the quality of staff or available services. To address this, I include fixed effects for both the placement facility and the incarcerated individual's home county in all specifications.[26]

An additional concern may be that peer composition varies systematically with distance. Individuals placed further from home may be less likely to be incarcerated with people they already know if facilities draw from the nearby communities. The effect of exposure is theoretically ambiguous: knowing more people may be beneficial as a reduction of social isolation or it may be criminogenic by reinforcing ties to criminal associates. I am not able to measure direct associates or friends in the data. As a rough proxy of whether an individual is incarcerated alongside people from their home community, I construct the share of an individual's placement facility population at the time of admission who share their home ZIP code.[27] Distance is correlated with same-ZIP peer share and those incarcerated further from home are less likely to share a facility with others from their home ZIP code. However, higher peer share is not associated with 1-year or 3-year recidivism (see Appendix Table A24). Additionally, when I include this measure as a control in the IV specification, the estimated effect of visitation on recidivism is essentially unchanged — moving from -0.0138 to -0.0135 for 1-year readmission and from -0.019 to -0.017 for 3-year readmission, both remaining significant at the 5% level. In this specification, peer share itself is not a significant predictor of recidivism. The Airway Heights Corrections Center draws disproportionately from nearby communities relative to other facilities, so I include an additional robustness check in which I drop anyone incarcerated in this facility and results

25. Released individuals must either arrange pick-up from their facility by family or friends, or WADOC will provide a bus ticket back to the individual's home county. Conditions of community supervision require the individual to reside in their county of conviction and that is where check-ins occur.

26. I also estimate a version where I exclude King, Pierce and Snohomish counties, the counties that encompass the Seattle-Tacoma Metropolitan area. Effects are consistent with the main results. See Appendix Table A23.

27. This measure is fixed at the time of admission and does not capture turnover in facility population over the course of a spell.

remain unchanged (see Appendix Table A25). This indicates that while distance does reduce exposure to peers from an individual's home community, this channel does not appear to account for the estimated effect of visitation.

A further requirement for exclusion is that distance affects only the intensity of visitation, not its composition. If individuals who live closer to a facility are visited by a broader set of family and friends, whereas those placed farther away are visited only by their closest relatives, then distance could change the type of social support received rather than just its frequency. This would violate exclusion if different visitors (e.g., parents versus partners) have distinct effects on reentry outcomes. Appendix Figure A4 shows that the composition of visits by relationship type declines proportionally with distance, suggesting that distance primarily scales down the number of visits rather than altering who visits.

5 Results

5.1 The Effect of Distance on Recidivism

I begin by estimating the effect of distance from home on recidivism following Equation (1). Table 4 presents the results. Columns (1) and (4) present specifications without any controls or fixed effects, Columns (2) and (5) add fixed effects, and Columns (3) and (6) include the full set of controls and fixed effects. Given the previously demonstrated lack of systematic relationship between distance and pre-determined characteristics, it is both expected and reassuring that the estimates remain largely unchanged with the inclusion of controls. A 100-mile increase in the distance between an individual's home county and their assigned facility is associated with a 0.8 percentage point increase in the likelihood of being readmitted to prison within one year of release, and a 1.1 percentage point increase within three years. These results suggest that being incarcerated farther from home has a statistically significant and negative impact on reentry outcomes. Compared with recidivism rates of 9 percent within one year and 26 percent within three years for individuals placed more than 99 miles from home (the median placement distance), these estimates correspond to increases of roughly 9 percent and 4 percent, respectively.

For context, Palmer, Phillips, and Sullivan (2019) finds that emergency housing assistance reduces rearrest within one year by 18 percent, while Yang (2017) shows that expanded eligibility for welfare and food stamps lowers one-year reincarceration rates by 10 percent. Mueller-Smith and Schnepel (2021) reports that diverting first-time offenders from prison reduces reoffending by 50 percent over ten years.

Table 4: The Effect of Distance on Recidivism

	Readmit in 1 year			Readmit in 3 years		
	(1)	(2)	(3)	(4)	(5)	(6)
Distance (100 miles)	0.0048*	0.0094***	0.0084**	0.0087**	0.0126**	0.0111**
	(0.0025)	(0.0035)	(0.0034)	(0.0038)	(0.0050)	(0.0048)
Controls	No	No	Yes	No	No	Yes
Fixed-effects	No	Yes	Yes	No	Yes	Yes
Outcome Mean (> 99 miles)	0.09	0.09	0.09	0.26	0.26	0.26
Observations	24,338	24,338	24,338	24,338	24,338	24,338

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. Estimates are from OLS regressions. The outcome variable for Columns (1)-(3) is a binary indicator for whether an incarcerated individual was readmitted to prison within 1 year of release. The outcome variable for Columns (4)-(6) is a binary indicator for whether an incarcerated individual was readmitted to prison within 3 years of release. Columns (1) and (4) present specifications without any controls or fixed effects. Columns (2) and (5) add fixed effects for year of admission, home county and facility. Columns (3) and (6) include controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility. The outcome mean is the average rate of recidivism for individuals placed greater than 99 miles from home, which is the median placement distance. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

5.2 The Effect of Distance on Visitation

I next turn to visitation as the mechanism through which distance may affect recidivism. As demonstrated in Section 4, distance is unrelated to pre-existing characteristics or other in-prison programming linked to reentry outcomes, leaving visitation as the most plausible pathway through which distance impacts recidivism.

Table 5 reports the first-stage relationship between distance and visitation. Columns (1) and (2) present the effect of distance on the number of visits per month served, which is the primary specification. Columns (3) and (4) report the effect on an indicator for receiving any visit, which captures the extensive margin. As expected, the relationship between the distance of a prisoner's placement facility and visitation is negative and statistically significant: a 100-mile increase in home-to-prison distance reduces the number of visits received per month by approximately 0.6 visits (Column 2) and lowers the probability of receiving any visit by about 11 percentage points (Column 4). Given that the median individual in the sample is placed 99 miles from home and the average number of visits per month is 0.91, these are substantial declines.

Table 5: The Effect of Distance on Visitation

	Visit Count (per Mo.)		Visit Received	
	(1)	(2)	(3)	(4)
Distance (100 miles)	-0.6653***	-0.5935***	-0.1067***	-0.1069***
	(0.0211)	(0.0255)	(0.0042)	(0.0048)
Controls	No	Yes	No	Yes
Fixed-effects	No	Yes	No	Yes
Outcome mean	0.91	0.91	0.44	0.44
Observations	24,338	24,338	24,338	24,338
F-stat	981.22	540.41	557.60	492.80

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. This table presents estimates from OLS regressions. The outcome variable for Columns (1) and (2) is the count of visits received in a given spell normalized by the number of in-prison months for a given prisoner-spell. The outcome variable for Columns (3) and (4) is a binary indicator for whether a prisoner received any visits. Columns (2) and (4) include controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

5.3 The Effect of Visitation on Recidivism

I now turn to IV estimates of the effect of visits on recidivism using distance as an instrument following Equations (2) and (3). The two-stage least squares estimates are presented in Table 6. In Table 6, the top panel presents results for the primary specification where treatment is the count of visits received per month of incarceration. The bottom panel presents results when treatment is a binary indicator for any visits received. Columns (1) and (2) give the causal effect of visitation on the probability of being readmitted within 1 year and Columns (3) and (4) show the same for 3 year readmittance probability. All estimates include all controls and fixed effects discussed in Section (4). One additional visit per month reduces the probability of being readmitted to prison by 1.4 percentage points within 1 year and 1.9 percentage points within 3 years. Given a re-incarceration rate of 10 percent for non-visited incarcerated individuals within 1 year of release and 28 percent within 3 years of release for never-visited incarcerated individuals, this represents a 14 percent decline in one-year re-incarceration and an almost 7 percent decline in three-year re-incarceration. Given that the average number of visits per month is 1 visit, 1 additional visit per month represents a large increase in treatment. Scaling estimates down to 1 visit every 2 months yields estimates closer to a 3.5 percent reduction in recidivism at 3 years.

Under the usual positive-selection story in which incarcerated individuals with families with strong ties

both visit more and would reoffend less even absent visits, OLS would overstate the benefit of visitation and the 2SLS estimate would be smaller in magnitude. Instead, the 2SLS point estimates are more negative than OLS, although imprecise. I investigate several explanations in Appendix Section A.1, including selection on levels, measurement error, and differential population weighting across estimators. Interpreting the 2SLS estimate under the standard LATE assumptions of Imbens and Angrist (1994) as the treatment effect for compliers, those whose visits is moved by distance, I find that compliers are less advantaged than the broader visited population. Compliers are less likely to be low-recidivims-risk, partnered, or high-income, consistent with larger returns to visitation for this less-advantaged group.

To put the point estimates in context of the literature, they are quantitatively similar to Lee (2019a), although with twice the sample size my estimates are more precisely estimated. The point estimates in Lee (2019a) for the effect of receiving any visits on 3-year reincareration is an 8 percentage point reduction and for receiving one additional visit per month is a 1 percentage point reduction. Relative to other studies of visitation, my estimates fall within the mid-to-upper range of previous findings summarized in the meta-analysis by Mitchell et al. (2016), who reports effects ranging from a 3 percent to 62 percent reduction in recidivism.

Results showing heterogeneity by age, current crime type, and race can be found in Appendix Table A35, heterogeneity by subsequent crime type can be found in Appendix Table A36 and analysis of heterogeneity by visitor relationship can be found the Appendix Section B.

Table 6: The Effect of Visitation on Recidivism

	Readmit in 1 year		**Readmit in 3 years**	
	OLS	2SLS	OLS	2SLS
Visit Count (per Mo.)	-0.0052***	-0.0141**	-0.0112***	-0.0187**
	(0.0005)	(0.0057)	(0.0009)	(0.0081)
Visit Received	-0.0296***	-0.0781**	-0.0529***	-0.1036**
	(0.0039)	(0.0318)	(0.0059)	(0.0451)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,338	24,338	24,338	24,338
Untreated Mean	0.10	0.10	0.28	0.28

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. This table presents both OLS and 2SLS estimates of the effect of visitation on prison readmission. Visit count (per mo.) is the count of visits received in a given spell normalized by the number of in-prison months for a given prisoner-spell. The outcome variable for Columns (1) and (2) is a binary indicator for whether a prisoner is re-admitted within 1 year and the outcome variable for Columns (3) and (4) is a binary indicator for whether a prisoner is re-admitted within 3 years. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The untreated mean is the rate of recidivism for non-visited incarcerated individuals. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

5.3.1 The Effect of Visitation on Time Served

Visitation may shape not only post-release outcomes but also experiences during incarceration. Several theories from psychology and criminology exist as to why visitation may reduce misconduct. The first is that contact with family and friends can serve as a coping mechanism, which reduces stress and reduces misbehavior (Wooldredge 1999). Alternatively, maintaining contact with family may encourage individuals to avoid misconduct (which can lead a reduction in early release time) in order to complete their sentence as quickly as possible and be reunited with loved ones. Finally, because visitation is a privilege that be revoked for misconduct, it can serve as an incentive for good behavior. Prior correlational work in criminology shows that visitation is associated with less misconduct in prisons (Cochran 2012) and Lee (2019a) also finds that visitation reduces misconduct and days served. At the same time, visitation may not be uniformly positive: stressful or disappointing visits might worsen mood, and in some cases visits may enable the introduction of contraband, leading to disciplinary sanctions. The net effect of visitation on behavior during incarceration is therefore ambiguous.

In Washington, almost all incarcerated individuals are eligible to receive early release and 94 percent of the individuals in the sample leave prison prior to the completion of their sentence. At intake, each individual is assigned an Earned Release Date, which reflects the anticipated release date contingent on no disciplinary action. Time can then be added back during incarceration, up to the full sentence, as a result of disciplinary infractions for misconduct or refusal to participate in assigned work or educational programming (Washington Administrative Code 137-28-350).[28]

While I cannot directly observe disciplinary records, I am able to measure time served against original sentence length. To estimate the effect of visitation on time served, I use Equations (2) and (3) and replace the outcome variable with fraction of sentence served. Table 7 reports the estimates. An additional visit reduces the fraction of sentenced served by 0.07 percentage points. Non-visited individuals serve, on average, 61 percent of their sentence, so a 0.07 percentage point reduction represents a roughly 1 percent decrease. Given that the average non-visited individual is sentenced to 654 days, this translates into about 7 fewer days in prison. Using the binary measure instead, a four percentage point reduction translates into about 43 fewer days in prison.

Visits might reduce time served through several channels. One possibility is that individuals who receive visits are less likely to receive disciplinary action, which adds time back to the sentence. These sanctions can result from misconduct for behavior or from failure to comply with assigned programming, and this distinction is not observed in the data. Therefore, changes in time served reflect a change in disciplinary outcomes that may not be from misconduct alone. Another possibility is that visitation improves release conditions. For example, Washington has a Ten Day Release policy that allows eligible individuals to be released up to ten days prior to their Earned Release Date. One specific condition for this is having an approved release address. As I show later, individuals who receive visits are more likely to have stable housing arrangements, which may allow them this early release.

As an additional check, I examine whether visitation affects the likelihood of being released from a lower-security facility than the placement facility. Incarcerated individuals undergo security reviews every six months, with the expectation that those with no major infractions progressively move to lower-security facilities. Disciplinary issues can delay or prevent this transition, but lack of an approved release address would not. I find that receiving visits increases the probability of release from a lower-security facility by 11 percentage points, a 55 percent increase. This is consistent with visits reducing disciplinary outcomes. Results are reported in Appendix Table A31.

28. It is important to note that disciplinary action is often at the discretion of the corrections officer, and may not be an accurate reflection of true misconduct. Washington currently has a "some evidence" standard, which means an officer's statement is sufficient to support disciplinary action (Office of the Corrections Ombuds 2023).

Table 7: The Effect of Visitation on Time Served

	Fraction of Sentence Served	
Visit Count (per Month)	-0.0070**	
	(0.0031)	
Visit Received		-0.0372**
		(0.0167)
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Observations	22,440	22,440
Non-visited fraction served	0.61	0.61

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. Fraction of sentence served is equal to the days served by individual i in spell s divided by the number of days of individual i's original sentence for spell s. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted on or after January 1, 2010 to Washington state prisons who were placed in a standard facility. One percent of the sample has an indeterminate sentence length and are dropped from estimation.

Time served matters not only because it can serve as a proxy for behavior during incarceration, but also because the amount of time spent in prison can shape post-release outcomes. Mueller-Smith (2015) reports criminogenic effects, with longer incarceration actually causing higher rates of post-release criminal charges. In other work, Rose and Shem-Tov (2021) find that incarceration reduces recidivism, but that the effects are diminishing – incarceration versus no incarceration decreases crime but longer sentences do not decrease crime more than shorter sentences. Taken together, these findings imply that, for people already in custody, prolonging imprisonment through earned-time revocations may do little to decrease post-release criminal activity and decreased time may actually reduce future crime. Visitation may therefore decrease recidivism by decreasing time spent in prison.

I next consider the cost savings associated with reduced incarceration. As shown, closer placements increase visitation, which in turn lowers both fraction of sentence served as well as re-incarceration. To estimate the reduction in incarceration due to visitation, I estimate a 2SLS model analogous to Equation 3, replacing the outcome with the total number of days incarcerated in the five years following date of sentence. For each individual, starting on the date of sentence, I count days spent incarcerated over the subsequent five-year window, including the current incarceration spell. This approach incorporates both the reduced time served in the given spell as well as the effect of reduced re-incarceration. Estimates imply that receiving an extra visit per month of incarceration reduces time served in the five years following sentencing by 25 days.

The average non-visited individual spends 509 days of the five years post-sentence in prison, making this a 5 percent reduction in incarceration time. According to budget documentation from the Washington DOC, in 2022 the cost per incarcerated individual per day was $174.32.[29] The 25 day reduction of incarceration then results in savings of $4,358 per person. These savings represent the expected reduction in incarceration costs due to visitation effects under the current placement system.

6 Housing Stability

Prior research highlights both the difficulty formerly incarcerated individuals face in securing stable housing and the critical role that stable housing plays in successful reentry. For instance, Gottlieb and Jacobs (2020) provides suggestive evidence that housing instability is prevalent among individuals released on probation, 25 percent lacked stable housing, and that this instability is associated with a 35 percent increase in the risk of recidivism. Similarly, Palmer, Phillips, and Sullivan (2019) shows that emergency financial assistance for housing significantly reduced the likelihood of rearrest by 18 percent. Furthermore, qualitative research underscores the importance of social networks in securing housing after release. La Vigne, Travis, and Visher (2004) documents that 42 percent of individuals released from prison moved into a family member's home immediately upon release. Likewise, Deess, Allen, and Nelson (1999) finds that approximately 80 percent of parolees resided with family members. If visitation allows individuals to maintain relationships with family, and individuals who receive visits are more likely to secure stable housing upon release, housing is a plausible channel through which visitation operates. I therefore examine housing as a candidate mechanism linking visitation to reentry outcomes.

Most individuals released from a Washington State prison are required to submit a post-release address and sponsor for approval by the Department of Corrections.[30] A sponsor is any person willing to allow an incarcerated individual to live with them post-release, subject to several restrictions such as not having a criminal history and not being a victim of the individual's crimes.[31] While in theory an incarcerated individual could live alone when released, in practice this is exceedingly rare due to high housing costs and the financial circumstances of most released individuals. Release plans are initially developed during intake, but a staff member from the Reentry Division begins working with incarcerated individuals one-year from release to finalize a plan, and release address verification begins at 6 months from release. If an individual cannot provide an acceptable living plan, WADOC will delay release until an address is secured or until the

29. This is calculated by dividing the total 2022 Fiscal Year expenditures by the average daily population, and then by 365 to get the daily average (see Washington Department of Corrections (2022a)).

30. Individuals whose sentence does not require community supervision after release or are serving a misdemeanor sentence are exempt from this requirement.

31. Residences are also reviewed for weapons and drugs. Some incarcerated individuals may not live with children or animals, and this is also reviewed. All members of the household are reviewed for criminal history, not just the sponsor.

sentence is fully served, as opposed to releasing someone at their Earned Release Time.[32] After recognizing that many individuals were remaining in prison solely due to the lack of a housing plan, WADOC launched the Reentry Housing Assistance Program in 2009.[33] Support is offered through both referrals to transitional housing programs and direct rental subsidies. The latter takes the form of a voucher that covers up to $700 in monthly rent for a maximum of six months following release.

While the goal is to understand how visitation effects post-release housing stability, the data do not directly measure this. Instead, I observe whether an individual uses a housing voucher at release. Requiring assistance due to the absence of a sponsor or the inability to secure housing independently strongly signals a lack of stable housing. Those who end up using a house voucher are much less likely to have been visited than those who did not – 11 percent of those who were ever visited use a housing voucher compared to 25 percent of those who were not visited.[34] Additionally, those who receive a housing voucher have higher rates of re-admittance to prison than those who do not – 29 percent of individuals who received a voucher are re-admitted within 3 years of release versus 24 percent of individuals who did not require a voucher.

To better understand how housing vouchers may impact re-admittance to prison, it is also important to examine where individuals who receive this assistance tend to live after release. Eighty-six percent of individuals who used housing assistance were released to transitional housing, compared to only 15 percent of those who did not require housing assistance.[35] These settings are commonly known as "halfway houses" and they provide short-term, non-DOC-operated housing for people leaving prison. Placements may be motivated by needs, such as sober-living support, or by religious values. However, in practice, release to transitional housing is closely tied to use of a housing voucher. Transitional housing environments vary significantly in quality and services offered, complicating causal inference of their impact on post-release outcomes. However, a common feature is communal living with structured supervision. Lee (2023) shows that mandated residential housing for high-risk individuals increases the risk of re-incarceration, largely due to heightened exposure to technical violations under intensive monitoring. This suggests that transitional housing may also be a potential mechanism of prison readmission.

First, I document the relationship between housing assistance and recidivism. I estimate OLS models with a binary indicator for prison readmittance as the dependent variable and housing assistance as the independent variable. I include the full set of controls and fixed effects from the main specifications. Table

32. Incarcerated individuals are assigned an early release date at the start of their sentence and can gain time back on their sentence for misconduct, which includes non-participation in required programming and disciplinary action. Most non-violent individuals are eligible to earn up to 50 percent of their sentence off.

33. The DOC noted that it was spending thousands of dollars per month to hold individuals past their early release date due to unmet housing requirements.

34. Appendix Table A9 presents descriptive statistics for the entire sample by housing voucher status. Appendix Table A14 presents descriptive statistics on individuals who used housing vouchers by visitation status.

35. I define transitional housing as either a housing address where more than 5 incarcerated individuals have been released or with a sponsor name or address name such as "Sober Living Community" or "Group home".

8 presents the results. Columns (1), (3) and (5) include a binary indicator for whether an individual required a housing voucher upon release from prison. Columns (2), (4) and (6) add a binary indicator for use of transitional housing post-release. Across all specifications, the need for housing assistance is positively correlated with prison admission. Estimates at six months are small, suggesting that housing vouchers may provide short-term stability – they are valid for only six months, but even individuals who need assistance are able to maintain housing during this period. However, the effects grow at one and three years, a pattern consistent with persistent underlying housing instability among voucher recipients. If the association were driven mainly by voucher recipients living in transitional housing, where intensive supervision could potentially increase detection of illegal activity, then controlling for transitional housing should substantially attenuate the voucher coefficient. While the coefficient does not fully attenuate, it does decline somewhat, suggesting that both transitional housing and broader housing instability contribute to the relationship.

Table 8: Housing and Recidivism

	OLS					
	Readmit in 6 mo.		Readmit in 1 year		Readmit in 3 years	
	(1)	(2)	(3)	(4)	(5)	(6)
Voucher	0.0065*	0.0039	0.0210***	0.0155**	0.0481***	0.0334***
	(0.0034)	(0.0040)	(0.0060)	(0.0071)	(0.0085)	(0.0100)
Transitional Housing		0.0040		0.0087		0.0232***
		(0.0034)		(0.0059)		(0.0086)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,038	20,038	20,038	20,038	20,038	20,038
Non-voucher Readmit Rate	0.02	0.02	0.08	0.08	0.24	0.24

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents OLS estimates of the correlation between voucher use and transitional housing use with prison readmission. Transitional housing is a binary indicator for whether an individual was released to an address indicating transitional housing. Assistance is a binary indicator for whether an individual required housing assistance to obtain an approved living situation post-release. The outcome variable for Columns (1)-(2) is a binary indicator for whether an incarcerated individual was readmitted within 6 months of release. The outcome variable for Columns (3)-(4) is a binary indicator for whether an incarcerated individual was readmitted within 1 year of release. The outcome variable for Columns (5)-(6) is a binary indicator for whether an incarcerated individual was readmitted within 3 years of release. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code. Six percent of spells are missing information on post-release housing and are excluded. Non-voucher readmit rate is the rate of readmittance for the given time frame for individuals who did not use a housing voucher.

I now estimate the causal effect of visitation on housing stability by using distance as an instrument for visitation. As shown, distance is uncorrelated with family relationships, pre-determined characteristics, and other programming. Therefore, it is plausible distance only impacts housing stability through visitation. Results are shown in the blue bar of Figure 4 and point estimates are given in Appendix Table A32. Receiving

an additional visit per month causally reduces housing voucher use by 3 percentage points (a 12 percent reduction).

To further investigate whether visits reduce prison readmissions through improved housing stability, I estimate IV models using distance as an instrument for the number of visits received per month and joint outcomes of recidivism and housing status as dependent variables. I define four mutually exclusive and exhaustive categories: readmitted and used a housing voucher, readmitted and did not use a housing voucher, not readmitted and used a housing voucher, and not readmitted and did not use a housing voucher. Each category represents a distinct combination of post-release housing stability and recidivism outcomes and so the estimated effects can be interpreted as reallocations across the categories. Results are presented in Figure 4 and point estimates are reported in Appendix Table A33.

Results show movement from the least favorable state, *Readmit, Voucher*, into the most favorable state, *No Readmit, No Voucher*, which is consistent with housing stability being a mediating factor for recidivism. The magnitudes suggest partial mediation rather than full mediation indicating that housing stability is an important pathway but that visits also influence recidivism through other channels such as emotional or psychological support.[36]

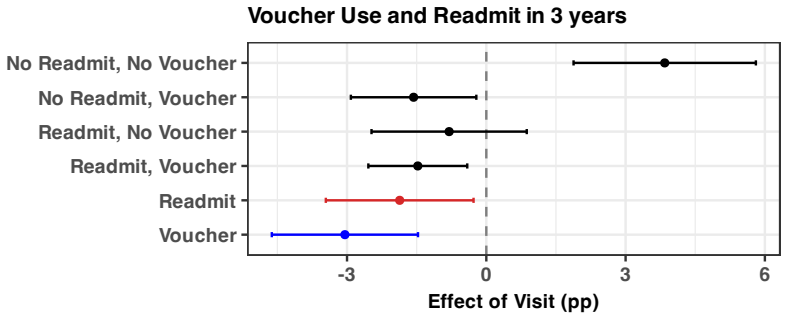

Figure 4: Joint Housing and Recidivism Outcomes

Notes: This figure plots the IV estimates of the effect of an additional visit on joint outcomes for housing instability and recidivism. Point estimates are indicated by dots and the lines indicate 95% confidence intervals. Each row (point estimate and line) represents a separate regression. Outcomes consists of four mutually exclusive and exhaustive categories of binary indicators for prison readmission within three years and receipt of a housing voucher. The red point and line is the marginal effect of a visit on the probability of being readmitted in three years.

As address verification for release plans begins 6 months prior to release, I investigate if visitation at the end of a spell is especially meaningful for re-offense in general and for housing stability specifically. For

36. Importantly, the measured housing channel likely encompasses both material and relational support, as individuals living with friends or family also likely receive other non-measured support.

individuals who spent at least 14 months incarcerated, I look at the relationship between voucher receipt and visitation in the last year, last 6 months, and last 3 months.[37] To do this I regress a binary indicator for voucher use on mutually exclusive categories of visitation timing: an individual's last visit was more than 1 year prior to their release date, their last visit was between 6 and 12 months prior to release, their last visit was between 3 and 6 months prior to release, or their last visit was less than 3 months prior to release. The excluded group is individuals who received no visits. Results are shown in Table 9. Individuals visited in the final three months of their spell are half as likely to require a housing voucher as those whose visits occurred only early in the spell. The increasing magnitude in Column (3) is consistent with housing plans being finalized close to release, and with making visitation salient for securing stable housing.

Table 9: Visit Timing and Housing Stability

	Housing Voucher Used: OLS		
	Any Visit (1)	Any Visit (2)	Visit Timing (3)
Visit Received	-0.1296***	-0.1545***	
	(0.0055)	(0.0090)	
Last Visit $>$ 1 year before release			-0.0912***
			(0.0149)
Last Visit $6-12$ mo. before release			-0.1533***
			(0.0114)
Last Visit $3-6$ mo. before release			-0.1665***
			(0.0114)
Last Visit $<$ 3 mo. before release			-0.1837***
			(0.0107)
Controls	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes
Observations	20,038	8,506	8,506
Non-visited Voucher Use Rate	0.25	0.29	0.29

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents OLS estimates of the relationship between visitation and housing voucher use. The outcome variable is a binary indicator for whether an incarcerated individual's required a housing voucher in the given spell. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. Six percent of spells are missing information on post-release housing and are excluded from Model (1). The sample for Models (2) and (3) are individuals who spent at least 14 months in prison. The excluded category is no visits. Eight percent of spells lasting 14 months or more are missing information on post-release housing and are excluded. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

One alternative could be that visitation does not affect housing at all, and that having a place to live simply proxies for pre-existing social support. If that were true, outcomes should be similar for visited and

37. I restrict the sample to 14 months to allow for everyone to receive a visit at least 1 year prior to release.

non-visited individuals within each housing-assistance group. However, they are not. Among those with assistance, 8 percent of visited are readmitted versus 13 percent of non-visited. I also verify this pattern in my supplementary data where I have self-reported family relationship status at intake.[38] Visitation has a stronger correlation with not needing housing assistance than self-reported "good family relationship" at intake. Among those who report not having a good relationship 35.5 percent of non-visited used a housing voucher compared to only 13.4 percent of visited individuals (a 22.1 percentage point difference). For comparison, among those who do report a good family relationship, 19.9 percent of non-visited individuals used a housing voucher relative to only 12.1 percent of visited individuals (a 7.8 percentage point difference). These patterns are consistent with visits reinforcing support relevant for post-release housing, beyond just reflecting pre-existing support.

7 Counterfactual Placement Policies

Facility placement is an administrative decision and therefore a policy mechanism. Currently, proximity to home is not considered when assigning prison facilities. I evaluate counterfactual placement policies that minimize home-to-facility distance. Using my estimated effects of distance on visitation and of visitation on recidivism, I simulate outcomes under three policies: (i) assign each individual to the nearest facility with no constraints; (ii) assign to the nearest eligible facility subject to security-level eligibility and facility capacity, with random tie-breaking; (iii) a targeted program that first assigns those with the largest expected benefits to the nearest eligible beds before filling remaining capacity. Figure 5 presents the results of all three simulations.

For the first simulation, I set all prisons to 0 occupancy and I assign every individual admitted on or after January 1, 2010 to their nearest facility, ignoring any capacity constraints or security levels. I then compute the change in distance relative to the status quo by taking the difference between the average placement distance in the data and the average placement distance under this simulated regime. I translate this distance change into a change in the probability of being visited using the first-stage estimate of the effect of change in distance on visitation probability from Equation 2.[39] I then map the resulting change in average visitation probability into a change in recidivism using the 2SLS estimates of the binary measure of visits' effect on one and three-year prison readmission, from Equation 3.[40] This two-step procedure yields the counterfactual change in recidivism for each person, which I then aggregate to report the average change

38. See Appendix Table A15 and Appendix Table A16 for descriptive statistics on voucher use within the supplementary sample.

39. This approach uses a local linear approximation for the effect of distance on visitation.

40. This approach assumes constant effects across individuals. This does not allow counterfactual placements to change visitation and recidivism probabilities differently.

in recidivism from this counterfactual policy. On average, this would move people 82 miles closer to home and increases the probability of being visited by 8.7 percentage points. This results in a 0.7 percentage point reduction of predicted readmission at one year and 1.0 percentage point reduction at three years. Although unrealistic, given real capacity constraints and security level considerations, this can be thought of as the greatest possible change in recidivism from altering placements.

For the second simulation, I impose security-level and facility capacity constraints on the counterfactual placements. I initialize each facility's occupancy to the observed headcount on January 1, 2010 and leave anyone admitted prior to January 1, 2010 in their regularly assigned facility. I use each facility's stated capacity on the WADOC website. The simulation then proceeds month by month from January 2010 through December 2016. In each month, I take the set of new admissions for the month and, for each person, rank security-level appropriate facilities by home-to-facility distance. I use the security level proxy described in Section 4.1.1. To illustrate, let Individual A, Individual B, and Individual C all be admitted in January 2010. Individual A is minimum security, Individual B is medium security, and Individual C is close security. I rank all minimum security facilities by distance from Individual A's home county, all medium security facilities by distance from Individual B's home county and all close security facilities by distance from Individual C's home county. If Individual A's closest security-appropriate facility has open occupancy, they are assigned there. If not, I move to the second closest and so on until there is occupancy. When there are multiple individuals of the same security level admitted in the same month with the same facility ranking, I break ties randomly. After assigning everyone admitted that month, I release all individuals with release dates that month. Occupancy at each facility is updated each month as admissions arrive and as observed releases create vacancies. I then proceed to the next month, all the way through December 2016. After everyone is placed I compute the counterfactual change in distances and map this into visitation using the first stage effect of distance change on visitation and then to recidivism changes using the second stage estimated effects of visitation on recidivism. Under this assignment regime, people are moved 40 miles closer to home on average and the probability of being visited increased by 4 percentage points. This results in a 0.3 percentage point reduction of predicted readmission at one year and 0.4 percentage point reduction at three years.

Finally, I use the same dynamic monthly assignment procedure as in the second simulation, but now I prioritize older individuals. I do this by ranking every individual admitted in the given month by age and admitting the oldest individuals first so that they are more likely to be placed closer to home. For example, let Individual D and Individual E both be medium security custody and be admitted in the same month and have the same facility distance ranking. Individual D is 50 years old and Individual E is 27. I would assign Individual D to their closest facility before I assign Individual E. The choice to prioritize older individuals

is informed by the heterogeneity analysis in Table A35 that suggests older individuals have larger treatment effects than younger individuals. I use the coefficients from this heterogeneity analysis to scale both the first stage and second stage effects. This results in a 3 percentage point increase in visitation, a 0.4 percentage point reduction of predicted readmission at one year and 0.5 percentage point reduction at three years.

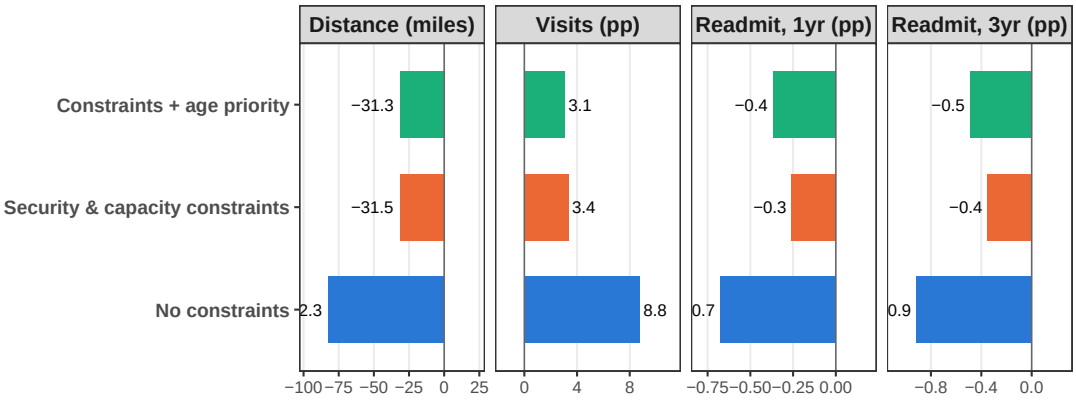

Figure 5: Counterfactual Results

Notes: This figure plots the results of the counterfactual exercises reassigning individuals to their closest facilities. The bottom blue bars correspond to the unconstrained reassignment, the middle green bars correspond to the security and capacity constrained simulation, and the top purple bars correspond to the security and capacity constrained simulation with prioritization of older admits.

Next, I consider the added reduction in incarceration days and associated cost-savings from these counterfactual placement policies that prioritize distance from home. The additional reduction from the placement policy that prioritizes older individuals translates to 5 fewer days incarcerated in the 5 years post-sentence for the average person. This translates to and an additional savings of $871.60 (using the 2022 cost of incarceration) per person.

While effects for the capacity constrained simulations are modest, these changes are meaningful relative to overall recidivism rates. Relative to the one-year readmittance rate of 10 percent, a 0.3 or 0.4 percentage point reduction in recidivism translates to a 3-4 percent decrease. This is comparable to the reductions found in Agan and Makowsky (2018b), which showed a 50 cent increase in the average minimum wage reduced one-year recidivism by 2.8 percent.

8 Conclusion

This paper shows that prison placement distance from home is an important policy margin. Leveraging quasi-random variation in initial facility assignment, an increase of 100 miles in distance from home increases the probability of re-admission by 9 percent within one year and 4 percent within three years.

Distance impacts recidivism through its impact on contact with family and friends. Each additional 100 miles decreases the number of monthly visits by 0.6, which is a 60 percent decrease from the average of 1 visit per month. I then build on this by estimating the causal effect of in-person prison visitation on recidivism using an instrumental variables strategy. Each additional visit per month reduces re-incarceration by 1.4 percentage points at one year and 1.9 percentage points at three years. One additional visit per month would be a 100% increase in visitation, and so scaling estimates down by half to something more reasonable yields estimates of a 3.5 percentage point decrease in recidivism at 3 years for one additional visit every other month. These effects are comparable to some of the most effective reentry interventions. Notably, in-person visits are something that occurs during incarceration, rather than as an additional program requirement post-incarceration that can reduce re-incarceration.

In addition to recidivism, visitation reduces the amount of time individuals spend in prison for a given spell, which is consistent with visitation decreasing in-prison misconduct. One additional visit per month results in a 1 percent reduction in time served. The median sentence length for a non-visited individual is 654 days, making this a reduction of 7 days at the median. Incorporating the additional cost savings from future recidivism, this results in cost-savings of over $4,000 per person per additional visit.

I also provide evidence consistent with a housing stability mechanism for visitation: an additional visit per month decreases reliance on a post-release housing voucher by 12 percent. Consistent with address verification for release, where address verification occurs within 6 months before release, visits toward the end of a prison spell are most predictive of not needing a voucher.

These results imply that reducing distance, and thereby increasing visitation, can improve reentry outcomes. At a time when some county jails are eliminating in-person visitation programs in favor of video visitation, it is important to note that visitation has a meaningful positive impact on reentry outcomes. While rigorous evidence on video visitation remains limited, research on virtual communication during the COVID-19 pandemic suggests that video calls are an imperfect substitute for face-to-face interaction. Evaluating how different forms of in-prison communication support reentry is an important direction for future work.

Appendix

A Interpretation of Results

A.1 Interpretation of the Gap Between OLS and 2SLS Estimates

I interpret the 2SLS results using the Imbens and Angrist (1994) LATE framework. With the added assumption that the instrument moves treatment in the same direction for everyone (monotonicity), Imbens and Angrist (1994) show that the population can be partitioned into four groups according to their response to the instrument. In this context, monotonicity means that increasing placement distance must weakly decrease the probability of receiving a visit for every individual. Always-takers receive visits regardless of how close or far they are placed from home. Never-takers never receive visits, regardless of placement distance. Compliers are visited when placed close to home, and are not visited when placed far from home. Defiers, who would be visited only when placed far from home, are assumed not to exist. In this setting, it is reasonable to assume that a shorter distance would weakly motivate people to visit more.

Under this framework, compliers are the only group whose visitation is affected by placement distance. As a result, two-stage least squares identifies the Local Average Treatment Effect (LATE), which is the causal effect of visitation on recidivism for the complier group. These individuals are the policy-relevant margin, since they are precisely the individuals for whom outcomes can be influenced by changes in placement distance.

Under these same assumptions, Imbens and Angrist (1995) show that for a treatment with variable intensity, such as the number of visits, the 2SLS estimator recovers the average causal response: a weighted average of treatment effects at each level of treatment. The weights are proportional to how strongly distance affects visitation, so the estimator places greater weight on individuals whose visitation is most responsive to distance and on ranges of visitation where distance induces the largest shifts in the distribution of visits.[41]

Under the usual positive-selection story in which incarcerated individuals with families with strong ties both visit more and would reoffend less even absent visits, OLS overstates the benefit of visitation, so an IV correction should yield a smaller effect than OLS. Here however, although 2SLS is imprecise, the point estimates are more negative than OLS.

First, I test for evidence of selection using the Black et al. (2022) test, which tests for selection by checking whether the instrument predicts outcomes within the visited population and within the non-visited population. Under valid exclusion, significant coefficients on the instrument indicate selection in levels that

41. Imbens and Angrist (1995) derive this result for a binary instrument. As a direct analogue, I also estimate a binary instrument equal to one for placements beyond the median distance of 99 miles; results are similar to the continuous specification (Appendix Table A26).

would bias OLS relative to IV.[42] I fail to reject the null hypothesis that selection is not present. Given the large IV standard errors, I see this as inconclusive. Estimates are presented in Table A1.

Table A1: Selection Test

	Readmit in 3 years	
	Untreated Sample (1)	Treated Sample (2)
Above median distance	0.0103	-0.0042
	(0.0079)	(0.0081)
Controls	Yes	Yes
Fixed Effects	Yes	Yes
Observations	13,563	10,775

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents results from the Black et al. (2022) test for selection with heterogeneous treatment effects. The dependent variable is an indicator for whether an individual is readmitted to prison within 3 years of release. The independent variable is an indicator for whether an individual is placed above the median distance of 99 miles. The untreated sample consists of individuals who did not receive any visits in the given spell. The treated sample consists of individuals who received one or more visits in the given spell. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Measurement error is another possible, though unlikely in this context, explanation for the 2SLS estimate being larger in magnitude than the OLS estimate. If unobserved family support both raises visitation and lowers recidivism, OLS estimates would be too negative because they confound the effect of visitation with the effect of support. Classical measurement error in the visit indicator would instead attenuate OLS estimates. These forces can offset, yielding OLS and 2SLS estimates that look similar even when selection exists. In this setting, however, substantial misclassification seems unlikely. To misclassify someone as "not visited" under a binary treatment definition, either every visit would have to be missing from the data or every visit would have to be recorded as happening for someone else. This seems most plausible for individuals who received only a single visit, and so I recode anyone with only one recorded visit as "not visited" and re-estimate the model. The resulting estimates change very little, as shown in Table A22, suggesting that measurement error is unlikely to be driving the results.

42. With heterogeneous effects, OLS and 2SLS target different parameters and so the traditional Wu-Hausman test for endogeneity is not informative.

Finally, OLS and 2SLS differ in which populations they weight. 2SLS identifies the effect for compliers and gives more weight to the observations where the instrument moves treatment more, while OLS estimates the difference in treated and untreated mean outcomes and with controls gives more weight to observations in cells with greater treatment variance.[43] It can be useful to look at the characteristics of the populations each estimate weights. In a similar spirit to the method in Abadie (2003) used to characterize always-takers, compliers and never-takers in the case of binary treatment and a binary instrument, Hull (2025) defines the effective population for a given estimand. For the pre-determined characteristics in the main sample, I compare the OLS and 2SLS effective populations and they appear quite similar across most characteristics, with the main difference being the 2SLS effective population is somewhat whiter (see Table A2).

Table A2: Effective Population Characteristics

	Sample (1)	OLS (2)	2SLS (3)
Admit age	33.5	31.6	31.9
	(0.07)	(0.10)	(0.60)
% Above median admit age	0.49	0.41	0.42
	(0.004)	(0.005)	(0.03)
% Non-white	0.37	0.33	0.26
	(0.003)	(0.005)	(0.03)
% Violent crime conviction	0.17	0.19	0.18
	(0.002)	(0.004)	(0.02)
% Drug crime conviction	0.25	0.25	0.26
	(0.003)	(0.004)	(0.03)
% Property crime conviction	0.41	0.43	0.46
	(0.003)	(0.005)	(0.03)

Notes: Standard errors in parentheses. "Above median admit age" is a binary indicator whether an individual was above age 33 at admit and is used for comparison to the heterogeneous treatment effect estimates that use this binary split. In Column (1) means and standard errors are calculated directly from the sample. In Column (2) means and standard errors are for the coefficient on treatment from an OLS regression with the interaction of treatment and the given characteristics as the outcome variable and treatment as the independent variable with controls for sentence length, recidivist status, home county and placement facility. In Column (3) means and standard errors are for the coefficient on treatment from a 2SLS regression with the given characteristics as the outcome variable and treatment as the independent variable, distance as the instrument and with controls for sentence length, recidivist status, home county and placement facility. Sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and who were placed in a standard placement facility.

However, other important dimensions on which selection may operate, such as pre-existing family relationships and income, are only observed in the supplementary data and so I cannot apply either complier characterization method. Instead, I look at a subset of the sample who participate in Extended Family Visits

43. A derivation of what OLS estimates in terms of the LATE-groups is in the Appendix.

(EFV), Washington's multi-day private visitation program. There are both stringent program requirements as well as significant travel and time costs associated with these multi-day visits, suggesting that EFV participants are highly motivated and extremely committed to their incarcerated loved one. Consistent with high motivation and support, distance is a very weak predictor of EFV participation (see Table A3), so EFV recipients are conceptually similar to always-takers (those individuals who would receive visits regardless of distance). I therefore use EFV recipients as a proxy for always-takers to contrast with compliers within the visited population.

Table A3: EFV First Stage

	EFV Received		EFV Count (per Mo.)	
	Full Sample	Visited Sample	Full Sample	Visited Sample
	(1)	(2)	(3)	(4)
	-0.0057***	-0.0086***	-0.0012***	-0.0017**
	(0.0011)	(0.0031)	(0.0003)	(0.0080)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
F-stat	27.7	7.95	16.70	4.34
Observations	24,413	10,775	24,413	10,775

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents the first stage effect of distance on likelihood and intensity of Extended Family Visits. Columns 1-2 present results for a binary indicator of EFV-receipt. Columns 3-4 present results for the count of EFVs received in a spell normalized by the number of months served for that spell. Columns (1) and (3) use the full sample. Columns (2) and (4) use the visited sample and show the effect of distance on receiving an EFV and the number of EFVs given already receiving regular visitation. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and who were placed in a standard facility.

Table A5 shows that as expected, both regular visitation recipients and EFV recipients are positively selected. Both groups are more likely to report having a long-term partner, having a good family relationship and to report having children than the non-visited individuals. However, while regular visitation recipients are more positively selected than never visited people, they are much less so than the EFV recipients. Compared to regular visitation recipients, EFV recipients are much more likely to be rated low risk of recidivism and are also disproportionately in the highest income bracket. This provides suggestive evidence on why the 2SLS estimate may be larger in magnitude than the OLS estimate, because 2SLS is placing weight on this regular visitation population (the compliers), who are less advantaged and, plausibly, have larger returns to visits.

Table A4: Sample Descriptives by EFV Status

	Overall	Never Visited	Visited, No EFV	EFV
N Incarceration Spells	24,338	13,563	10,483	292
N Incarcerated Individuals	21,389	12,090	9,840	290
% First admit	0.52	0.49	0.55	0.52
Median time served (days)	329	270	412	960
Median sentence length (days)	578	517	669	1,369
% Property crime	0.34	0.34	0.43	0.46
% Drug offense	0.25	0.26	0.25	0.29
% Violent offense	0.17	0.13	0.21	0.30
% Sex offense	0.05	0.04	0.06	0.08
% White	0.62	0.59	0.67	0.72
% Black	0.15	0.17	0.13	0.12
% Hispanic	0.13	0.14	0.12	0.10
% Native American	0.05	0.06	0.04	0.02
% Asian	0.03	0.04	0.03	0.04
Mean Age at admit	33.5	35.06	31.47	33.24
% Visited	0.44	0.00	1.00	1.00
Mean No. visits per month	0.91	0.00	1.97	4.80
% EFV participant	0.01	0	0	1
Mean No. EFVs per month	0.002	0	0	0.21
Median placement distance (miles)	98.65	111.94	86.70	79.12
% Use housing voucher	0.19	0.25	0.11	0.05
% Readmitted within 1 year	0.09	0.10	0.07	0.02
% Readmitted within 3 years	0.26	0.28	0.23	0.12

Notes: This table presents summary statistics for all men incarcerated in Washington state prisons admitted on or after January 1, 2010 and released by December 31, 2016. Data is at the prison spell level. Incarcerated individuals are categorized as "visited, No EFV" if they received one or more visits during the given spell but did not receive an Extended Family visit in the given spell. Incarcerated individuals are categorized as EFV recipients if they received one or more Extended Family visits during the given spell. Offense types are not mutually exclusive and are binary indicators for if any of the crimes associated with the current spell fall in the given category. Crime category definitions are taken from the Revised Code of Washington. Distance is calculated as the Euclidean distance from the geographic centroid of a prisoner's home ZIP code to the geographic centroid of their placement facility's ZIP code. Data comes from Washington Department of Corrections records and statistics are calculated by the author.

Table A5: Supplementary Sample EFV Statistics

	Overall	Never Visited	Visited, No EFV	EFV
N People	585	295	264	29
N Spells	590	297	264	29
% low risk	0.21	0.16	0.21	0.76
% moderate risk	0.10	0.10	0.10	0.14
% high drug crime risk	0.07	0.07	0.08	0.00
% high property crime risk	0.16	0.19	0.15	0.03
% high violent crime risk	0.22	0.22	0.23	0.07
% high risk all crimes	0.24	0.26	0.24	0.00
% mental health or substance abuse issue	0.88	0.92	0.87	0.52
% married or with long-term partner	0.41	0.32	0.48	0.76
% with good family relationship	0.71	0.67	0.75	0.79
% with children	0.51	0.49	0.55	0.59
% with 1 child	0.21	0.19	0.24	0.17
% with 2 or more children	0.30	0.30	0.29	0.41
Avg monthly income in 6mo prior to admit				
No legal income	0.34	0.34	0.36	0.07
<$1,000	0.18	0.21	0.17	0.07
$1,000-1,999	0.22	0.25	0.19	0.31
$2,000-3,999	0.19	0.16	0.22	0.17
≥ $4,000	0.08	0.05	0.08	0.38

Notes: The sample is all men already incarcerated as of 2018 or who were incarcerated after 2018 and were placed in a standard facility without a life sentence. Data is from the first risk assessment done for each individual in a given spell. Risk score classifications come from Washington's classification system based on discrete cuts of continuous numeric scores for property crime, drug crime and violent crime re-offense risk. Scores are determined by the responses to interview questions, criminal history, and past incarceration behavior (if applicable). Relationship status, number of children, family relationships and substance abuse issues are self-reported. Mental health issues refer to a documented diagnosis.

A.2 Interpretation of 2SLS with Covariates

The main 2SLS estimates rely on parametric functional–form assumption, namely that the linear projection of the instrument on covariates approximates the instrument's conditional expectation. As Blandhol et al. (2022) show, causal interpretation of 2SLS estimates with covariates requires that the linear projection of the instrument on the covariates equals its conditional expectation: $L(Z|X) = E[Z|X]$.[44] A sufficient condition for $L(Z|X) = E[Z|X]$ is when the covariate specification is fully saturated in X, meaning it includes indicators for all possible combinations of covariate values. I estimate alternative specifications that include saturated fixed effects.

44. Alternatively, one can assume the potential–outcome means are linear in covariates: $E[Y(t)|X] = \alpha_t + X'\beta_t, \quad t \in \{0, 1\}$. This implies for any treatment level t, the average potential outcome varies linearly with covariates. This rules out nonlinear relationships between covariates and outcomes—such as threshold effects, interactions, or diminishing returns. However, as Abadie (2003) cautions, this assumption has a problematic implication: even if the instrument Z is a deterministic or nonlinear function of X (clearly not exogenous), 2SLS may still yield an unbiased estimate of the ATE.

In my context, Z (distance) is as good as randomly assigned conditional on security level, making this the key variable for exogeneity to hold. An individual's home county also impacts the possible distances an individual could be placed, as well as recidivism risk through differing economic opportunities. An individual's placement facility could additionally impact recidivism risk in ways separate from its distance to the incarcerated individual's home if we think that incarceration in a certain facility is a unique experience. Fully saturating the model with respect to both home county and placement facility would require conditioning on all 1,170 possible combinations, which is unwise given the sample size, and would soak up the vast majority of variation in distance. To address this, I construct a proxy for security level using sentence length, crime type, and prior prison admissions and then estimate models with alternative specifications of interacted fixed effects.[45] Specifically, I present results from specifications that include: (i) fixed effects for the proxy security level alone, (ii) interactions between security level and home county, and (iii) interactions between security level, home region, and placement facility. Home regions aggregate counties into three broad groups: the Seattle–Olympia metro area, Southwestern Washington, and Eastern–Central Washington. I use home region rather than county in the final specification because including county-by-security-level fixed effects would absorb nearly all of the identifying variation. Using regions instead provides a coarser but still meaningful way to condition on home location while allowing sufficient variation in distance for estimation.

Table A6 presents results for both the count and binary measure of visitation with alternative covariate specifications. Columns (1) presents the main specification for 1-year and 3-year readmission, respectively, which include a full set of additive controls and fixed effects. Column (2) includes fixed effects for security level only, Columns (3) includes fixed effects for each security level-home county pair and Column (4) report estimates from a specification that includes indicators for every security level–facility–region combination. These saturated estimates are generally smaller in magnitude than the additive control models but are broadly consistent with the main results. Overall, I find consistent evidence that visitation causally reduces the likelihood of readmission.

45. Individuals who committed violent crimes and have a history of prior prison admissions are designated as "close" security. Individuals who did not commit any violent or sex offense and have sentence lengths equal to 13 months or less are designated "minimum" security. Individuals over 50 are designated as minimum. All others are designated as "medium".

Table A6: Visitation Effects, Alternate Models

	Main (1)	Security (2)	Security-County (3)	Region-Security-Facility (4)
Readmit in 1 year				
Visit Count (per Mo.)	-0.0141**	-0.0080**	-0.0091**	-0.0165***
	(0.0057)	(0.0037)	(0.0039)	(0.0064)
Visit Received	-0.0781**	-0.0482**	-0.0527**	-0.1158**
	(0.0318)	(0.0225)	(0.0227)	(0.0450)
Readmit in 3 years				
Visit Count (per Mo.)	-0.0187**	-0.0141**	-0.0185***	-0.0197**
	(0.0081)	(0.0056)	(0.0059)	(0.0098)
Visit Received	-0.1036**	-0.0854**	-0.1072***	-0.1381**
	(0.0451)	(0.0340)	(0.0341)	(0.0689)
Saturated fixed effects	Yes	Yes	Yes	Yes
Observations	24,338	24,338	23,847	24,102
F-stat, count (1st stage)	981.2	1,003.5	986.2	288.9
F-stat, binary (1st stage)	540.4	715.9	720.5	171.9

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents 2SLS results using alternate covariate specifications. The outcome variable for the top panel is a binary indicator for whether an incarcerated individual is readmitted within 1 year of release. The outcome variable for the bottom panel is a binary indicator for whether an incarcerated individual is readmitted within 3 years of release. *Visit Count (per Mo.)* and *Visit Received* are separate regressions. Column (1) presents the main results that include controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators for the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility. Column (2) contains fixed effects for security level only. Column (3) is saturated by security level-home county level. Column (4) is fully saturated in that they contain indicators for every security level-facility-home region combination. The specifications in Columns (3) and (4) include only cells with 30 or more individuals. Individuals are grouped into security levels using sentence length and history of prison admissions. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

B Heterogeneity by Visitor Type

One avenue to investigate the differential effects of visitor-type would be to look at individuals who only ever receive visits from one type of visitor. However, nearly 70 percent of visited individuals receive visits from a mix of types of visitors, whether it be their parents and their spouse or friends, a grandparent and their children, or many other combination.[46] Therefore, I instead divide the visited population into groups based on the modal relationship of their visitors: (i) children or spouse, (ii) parents, and (iii) friends or other family.[47]

To assess the causal impact of visitor relationship, I decompose the overall effect of distance on visitation

46. See Table A10.
47. Table A11 reports descriptive statistics for each visitor-group.

and recidivism into sub-effects defined by the dominant type of visitor. The main results estimate the LATE of distance, $LATE_{dist}$. This can be decomposed into a weighted average of sub-LATEs measuring the effects of visitation for individuals with different visitor compositions.[48]

$$LATE_{dist} = S_{child,spouse} LATE_{child,spouse} + S_{parent} LATE_{parent} + S_{friend,other} LATE_{friend,other}$$

where $LATE_{relationship}$ is the average treatment effect for compliers who move from receiving no visits to receiving visits from mostly visitor type $relationship \in \{child/spouse, parent, friend/other family\}$ when they are placed closer to home. The weights $S_{relationship}$ give the fraction of compliers from each visitor-group.

It is important to clarify how these visitor groups should be interpreted. Individuals have predetermined sets of potential visitors (parents, spouses, children, friends), and distance shifts whether those visitors are able to visit, not which type of visitor they have. The estimated effects for each visitor group therefore capture the causal impact of visitation for the subset of compliers whose marginal visits come from that relationship type, rather than substitution between visitor types.

To estimate these sub-LATEs, I decompose visitation into separate endogenous variables for each visitor group. To generate instruments, I interact covariates with distance to create multiple instruments. I create quartiles of both sentence length and age and interact those with quartiles of distance. This approach requires a constant effects assumption (see Kline and Walters (2016)). This rules out the possibility that, for example, spouse visits reduce recidivism more for older individuals than for younger ones, or that parent visits have larger effects for those with shorter sentences than for those with longer ones. The visitor-type sub-LATEs are presented in Table A7. The estimates indicate that compliers whose marginal visitors are spouses or children may benefit the most from visitation. However, these estimates should be interpreted with caution given the relative weakness of the instruments and the noisiness of the effects.

48. This decomposition follows the approach in Kline and Walters (2016).

Table A7: Visitation Effects by Visitor Type

	Readmit in 1 year		Readmit in 3 years	
	Dist × Age	Dist × Sent.	Dist × Age	Dist × Sent.
	(1)	(2)	(3)	(4)
Most Visits: spouse or child	-0.2963***	-0.4244	-0.4003***	-0.1615
	(0.1111)	(0.2602)	(0.1554)	(0.3808)
Most Visits: parents	-0.2107**	0.0136	-0.2163	0.1272
	(0.1000)	(0.1837)	(0.1399)	(0.2721)
Most Visits: other family or friend	0.2206	0.0580	0.1575	-0.1962
	(0.1368)	(0.1713)	(0.1929)	(0.2587)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
F-stat (spouse, child)	12.70	6.04	12.70	6.04
F-stat (parents)	11.00	11.4	11.00	11.4
F-stat (other)	7.05	9.77	7.05	9.77
Observations	24,413	24,413	24,413	24,413

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. The outcome variable for Columns (1) and (2) is a binary indicator for whether an incarcerated individual is readmitted to prison within 1 year of release. The outcome variable for Columns (3) and (4) is a binary indicator for whether an incarcerated individual is readmitted to prison within 3 years of release. The complete set of controls described in Section 3 are included as well as fixed effects for admit year, placement facility, and home county. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

C Additional Descriptive Statistics

C.1 Tables

Table A8: Selection into Visitation

	Visit Received		Visit Count (per Month)	
	(1)	(2)	(3)	(4)
Non-white	-0.072***	-0.0718***	0.2109**	0.2127***
	(0.007)	(0.0069)	(0.072)	(0.0721)
Violent crime	0.1691***	0.1519***	0.9626***	0.978***
	(0.0095)	(0.0094)	(0.1053)	(0.1053)
Property crime	0.0313***	0.0233***	-0.2968***	-0.2921***
	(0.0064)	(0.0064)	(0.06)	(0.0599)
Drug crime	-0.0125*	-0.0031	-0.1118*	-0.1168*
	(0.0073)	(0.0072)	(0.0649)	(0.0648)
Sex crime	0.0658***	0.033**	0.503**	0.5277***
	(0.0145)	(0.0146)	(0.1853)	(0.187)
Recidivist	-0.1205***	-0.1189***	-0.8683***	-0.8666***
	(0.0069)	(0.0068)	(0.0635)	(0.0634)
Age at admit	-0.0079***	-0.0082***	-0.0156***	-0.0152***
	(0.0000)	(0.0000)	(0.003)	(0.003)
Sentence length	0.0053***		-0.0039**	
	(0.0000)		(0.0018)	
Sentence Length Control	No	Yes	No	Yes
Sample	Full	Full	Visited	Visited
Observations	24,338	24,338	10,775	10,775

Notes: *p<0.1, **p<0.05, ***p<0.01. This table shows patterns of selection into visitation across observable characteristics. Each cell shows the coefficient from a separate regression with standard errors clustered at the individual level in parentheses. Columns 1 and 3 omit sentence length as a control, while Columns 2 and 4 include it (except when sentence length is the predictor). Fixed effects for admit year, placement facility, and home county are included in all models. The dependent variable in Columns 1–2 is an indicator for any visit. Columns 3–4 are restricted to those who received at least one visit. The dependent variable is the number of visits per month served. Non-white, violent crime, property crime, drug crime, sex crime and recidivist are all binary indicators for said characteristic. Age is measured in years. Sentence length is measured in months. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code. Underlying data comes from merged Washington Department of Corrections admissions and visitation records.

Table A9: Descriptive Statistics by Housing Assistance Status

	Overall	No Voucher	Voucher
Number of Spells	20,199	16,377	3,822
Median Sent. Length (months)	20	20	20
Median Time Served (days)	362	364	353
Median Age at Admit	31	31	34
% with prior admit	0.49	0.50	0.54
% drug crime	0.25	0.25	0.26
% sex crime	0.05	0.04	0.11
% violent crime	0.17	0.17	0.16
% property crime	0.42	0.46	0.28
Median Placement Distance (miles)	101.77	100.55	110.14
% Visited	0.45	0.49	0.26
Mean N Visits/month	0.88	1.01	0.29
% readmitted in 1 year	0.09	0.08	0.11
% drugs	0.02	0.02	0.03
% sex crime	< 0.01	< 0.01	< 0.01
% violent crime	0.01	0.01	0.01
% property crime	0.05	0.05	0.05
% readmitted in 3 years	0.25	0.24	0.29
% drugs	0.06	0.05	0.06
% sex crime	< 0.01	< 0.01	0.01
% violent crime	0.02	0.02	0.02
% property crime	0.13	0.13	0.13

Notes: This table presents descriptive statistics for the sample split by housing voucher status. Voucher use data comes from Washington Department of Corrections records. Spells are categorized as receiving housing assistance if the incarcerated individual received a housing voucher in that spell. All statistics are at the incarcerated individual-spell level. Offense types are not mutually exclusive and are binary indicators for if any of the crimes associated with the current spell fall in the given category. Distance is calculated as the Euclidean distance from the geographic centroid of a prisoner's home ZIP code to the geographic centroid of their placement facility's ZIP code. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility. Six percent of spells in the main sample are missing housing voucher information and are excluded.

Table A10: Visits from Only One Visitor Type

Visitor Relationship	N	Percent	Visitor Relationship	N	Percent
Only Children	53	< 0.01	Most Children	670	0.06
Only Spouse	225	0.02	Most Spouse	702	0.06
Only Friends	1,777	0.16	Most Friends	3,577	0.33
Only Parents	1,497	0.14	Most Parents	4,839	0.45
Mix or Other	7,286	0.67	Most Other Family	1,059	0.10
Total	10,775	1	Total	10,775	1

Notes: This table presents counts and percentages of incarcerated individuals who only receive visits from one type of visitor as well as by dominant visitor groups. The visited sample is split into groups by their visitors relationships, which is determined by the relationship of their visitor recorded at time of visit. The left panel presents the count and percent of visited individuals who only ever received visits from one type of visitor. The right panel splits the group by their dominant visitor-type.

Table A11: Descriptive Statistics by Dominant-Visitor Group

Most Visits from:	Child	Spouse	Parents	Friend	Other Family	No Visits
N	667	696	4,800	3,558	1,054	13,563
Age at Admit	36.93	36.65	29.25	32.30	32.42	35.06
Sentence Length (mos.)	24	25	22	22	22	17
% with prior admit	0.45	0.55	0.37	0.52	0.46	0.51
% violent offense	0.22	0.21	0.23	0.20	0.20	0.13
% drug offense	0.28	0.26	0.24	0.25	0.23	0.26
% sex offense	0.04	0.09	0.06	0.05	0.05	0.04
% property offense	0.35	0.37	0.48	0.39	0.44	0.40
% readmitted within 1 year	0.04	0.03	0.08	0.06	0.09	0.10
% readmitted within 3 years	0.16	0.15	0.24	0.22	0.25	0.28

Notes: This table presents descriptive statistics for the sample split by their dominant visitor type, which is determined by the relationship of their visitor recorded at time of visit. If an incarcerated individual's modal visitor relationship type is "child" they are in the "child" group. "No Visits" is the group that did not receive any visits in the given spell. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A12: Supplementary Sample Descriptive Statistics

	Overall	Not visited	Visited
N People	585	295	293
N Spells	590	297	293
Earliest admit	2000-03-28	2000-03-28	2002-11-08
Latest admit	2019-11-01	2019-11-01	2019-07-19
Median days served	570	406	968
Median days sentenced	815	669	1247
Avg age at admit	37.23	40.05	34.36
% white	0.62	0.60	0.63
% Black	0.17	0.18	0.16
% Hispanic	0.10	0.10	0.10
% Native American	0.07	0.08	0.06
% Asian	0.04	0.04	0.04
% Drug crime	0.19	0.15	0.22
% Violent crime	0.22	0.16	0.28
% Property crime	0.42	0.42	0.41
% Sex crime	0.04	0.02	0.06
% Visited	0.50	0	1
Avg visits per month	0.26	0	0.52
Median placement distance	118.08	125.35	109.57
% Low risk	0.21	0.16	0.26
% Moderate risk	0.10	0.10	0.10
% High drug crime risk	0.07	0.07	0.07
% High property crime risk	0.16	0.19	0.14
% High violent crime risk	0.22	0.22	0.21
% High risk all crimes	0.24	0.26	0.22
% Mental health or substance abuse issue	0.88	0.92	0.83
% Married or with long-term partner	0.41	0.32	0.50
% with good family relationship	0.71	0.67	0.75
% with children	0.51	0.49	0.54
% with 1 child	0.21	0.19	0.24
% with 2 or more children	0.30	0.30	0.30
Avg monthly income in 6mo prior to admit			
No legal income	0.34	0.34	0.33
<$1,000	0.18	0.21	0.15
$1,000-1,999	0.22	0.25	0.20
$2,000-3,999	0.19	0.16	0.22
$\geq$ $4,000	0.08	0.05	0.10

Notes: The sample is all men already incarcerated as of 2018 or who were incarcerated after 2018 and were placed in a standard facility without a life sentence. Data is from the first risk assessment done for each individual in a given spell. Risk score classifications come from Washington's classification system based on discrete cuts of continuous numeric scores for property crime, drug crime and violent crime re-offense risk. Scores are determined by the responses to interview questions, criminal history, and past incarceration behavior (if applicable). Relationship status, number of children, family relationships and substance abuse issues are self-reported. Mental health issues refer to a documented diagnosis. Average monthly income is self-reported for the last 6 months in the community prior to incarceration. "Under the table" income is considered illegal and is not counted.

Table A13: Balance on Distance to Initial Placement: Main Sample and Supplementary Sample

Panel A: Main Sample

Variable	Coefficient	Standard Error
Demographics		
Non-white	-0.7578	(0.8708)
Violent crime	-2.4832	(1.4055)
Property crime	-0.8260	(0.9354)
Age at admit	0.0415	(0.0393)
Programming Participation		
Parenting program	0.0011	(0.0010)
Education	0.0002	(0.0009)
Work crew	0.0003	(0.0014)
Prison job	0.0057	(0.0039)
Reentry planning	0.0025*	(0.0010)
Undisclosed	-0.0080	(0.0041)
Observations	24,338	

Panel B: Supplementary Sample

Variable	Coefficient	Standard Error
Demographics		
Non-white	0.4766	(0.6486)
Age at admit	-0.0118	(0.0241)
Programming Participation		
Parenting program	-0.7462	(1.2018)
Education	0.6665	(0.8678)
Work crew	-1.9472	(1.0065)
Prison job	1.5469*	(0.6351)
Reentry planning	-1.9440	(1.1306)
Undisclosed	-0.4223	(0.6344)
Family and Risk		
Long-term partner	-0.2000	(0.6351)
Children	0.4550	(0.6295)
Good family relationship	0.4478	(0.6866)
Low-risk	-0.8620	(0.7038)
Moderate-risk	-0.7910	(0.9932)
High-risk	1.0037	(0.6300)
Observations	590	

Note: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. Panel A presents statistics for the main sample. Each row is a regression of distance (in 1-mile units) on the given pre-determined characteristic or programming indicator, controlling for sentence length, crime type and first admit status, with fixed effects for admit year, placement facility, and home county. Panel B shows results for a supplementary sample incarcerated between 2018–2020 with intake records. Risk is WADOC's recidivism classification. High-risk combines high drug, property, violent, and diverse risk. No controls or fixed effects included in Panel B.

Table A14: Descriptive Statistics of Voucher Recipients by Visitation Status

	Overall	Not Visited	Visited
Number of Spells	3,822	2,810	1,012
% Voucher Receipt	1	0.74	0.26
Median sent. length (months)	19	18	25
Median time served (days)	353	311.5	510.5
Median age at admit	34	36	31
% with prior admit	0.54	0.57	0.48
% drug crime	0.26	0.27	0.22
% sex crime	0.11	0.08	0.18
% violent crime	0.16	0.15	0.21
% property crime	0.28	0.27	0.31
Median placement distance	110.14	115.49	96.61
% visited	0.26	0	1
Mean N Visits/month	0.29	0	1.09
% readmitted in 1 year	0.11	0.13	0.08
% drugs	0.03	0.03	0.02
% sex crime	< 0.01	< 0.01	0.01
% violent crime	0.01	0.01	0.01
% property crime	0.05	0.06	0.04
% readmitted in 3 years	0.29	0.31	0.24
% drugs	0.06	0.07	0.05
% sex crime	0.01	< 0.01	0.01
% violent crime	0.02	0.02	0.02
% property crime	0.13	0.13	0.11

Note: This table presents descriptive statistics for all visited individuals, split by housing voucher status. Spells are categorized as receiving housing assistance if the incarcerated individual received a housing voucher in that spell. All statistics are at the incarcerated individual-spell level. Offense types are not mutually exclusive and are binary indicators for if any of the crimes associated with the current spell fall in the given category. Distance is calculated as the Euclidean distance from the geographic centroid of a prisoner's home ZIP code to the geographic centroid of their placement facility's ZIP code. The sample includes all prison spells for visited men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A15: Supplementary Sample Descriptive Statistics by Housing Assistance Status

	Overall	No Voucher	Voucher
Number of Spells	563	457	106
% Visited	0.49	0.53	0.32
% Low risk	0.17	0.17	0.18
% Moderate risk	0.09	0.09	0.11
% High drug crime risk	0.07	0.07	0.09
% High property crime risk	0.18	0.19	0.12
% High violent crime risk	0.23	0.23	0.22
% High risk all crimes	0.26	0.25	0.29
% Mental health or substance abuse issue	0.92	0.92	0.92
% Married or with long-term partner	0.41	0.44	0.31
% with good family relationship	0.72	0.74	0.60
% with children	0.52	0.53	0.47
% with 1 child	0.22	0.23	0.15
% with 2 or more children	0.30	0.29	0.32
Avg monthly income bucket in 6mo prior to admit			
No legal income	0.36	0.37	0.32
<$1,000	0.19	0.17	0.25
$1,000-1,999	0.21	0.20	0.23
$2,000-3,999	0.19	0.20	0.15
$\geq$ $4,000	0.05	0.05	0.05

Notes: This table presents descriptive statistics for the supplementary sample split by housing voucher status. Voucher use data comes from Washington Department of Corrections records. Spells are categorized as receiving housing assistance if the incarcerated individual received a housing voucher in that spell. The sample is all men already incarcerated as of 2018 or who were incarcerated after 2018 and were placed in a standard facility without a life sentence. Data is from the first risk assessment done for each individual in a given spell. Risk score classifications come from Washington's classification system based on discrete cuts of continuous numeric scores for property crime, drug crime and violent crime re-offense risk. Scores are determined by the responses to interview questions, criminal history, and past incarceration behavior (if applicable). Relationship status, number of children, family relationships and substance abuse issues are self-reported. Mental health issues refer to a documented diagnosis. Average monthly income is self-reported for the last 6 months in the community prior to incarceration. "Under the table" income is considered illegal and is counter as no legal income. Ten percent of spells in the sample are missing housing voucher information and are excluded.

Table A16: Supplementary Sample, Sub-group Use of Voucher

	% Voucher Use
Within Visited	0.12
Within Non-visited	0.25
Within Married/long-term partner	0.14
Within Non-Married/long-term partner	0.22
Within good family relationship	0.16
Within not good family relationship	0.26
Within parents	0.17
Within non-parents	0.21
Within avg monthly income bucket	
No legal income	0.17
<$1,000	0.25
$1,000-1,999	0.21
$2,000-3,999	0.15
$\geq$ $4,000	0.17

Notes: This table presents what percent of each sub-group within the supplementary sample used a housing voucher. Voucher use data comes from Washington Department of Corrections records. Spells are categorized as receiving housing assistance if the incarcerated individual received a housing voucher in that spell. The sample is all men already incarcerated as of 2018 or who were incarcerated after 2018 and were placed in a standard facility without a life sentence. Data is from the first risk assessment done for each individual in a given spell. Relationship status, number of children, and family relationships are self-reported. Average monthly income is self-reported for the last 6 months in the community prior to incarceration. "Under the table" income is considered illegal and is counter as no legal income. Ten percent of spells in the sample are missing housing voucher information and are excluded.

C.2 Figures

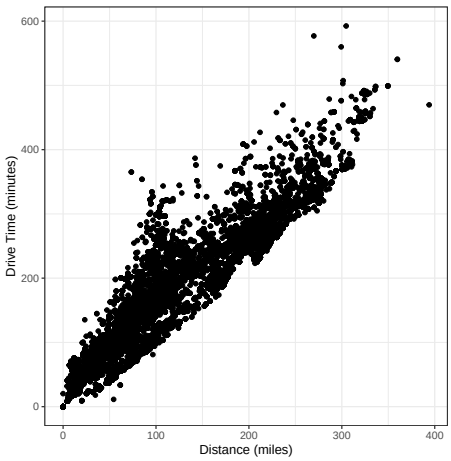

Figure A1: Distance vs. Drive-Time

Notes: This figure plots the correlation between Euclidean distance drive-time. Drive times are calculated using Google Maps API. Distance is on the x-axis and drive-time is on the y-axis. Each dot represents how long the estimated drive-time is for the given distance.

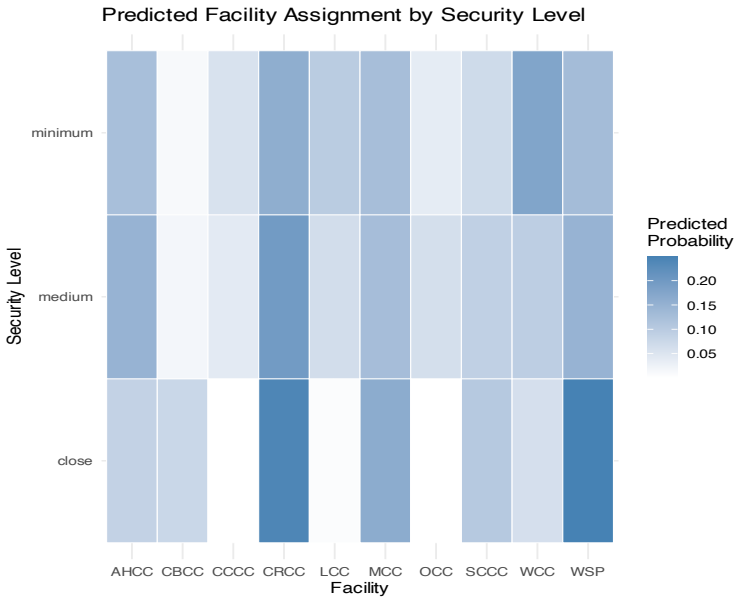

Figure A2: Predicted Facility Placement by Security Level

Note: This figure illustrates the average predicted probability an individual is placed in each facility given the proxy security level I create. OCC, LCC, and CCCC are minimum only facilities. CBCC and WCC house only incarcerated individuals medium and above. AHCC and CRCC house minimum and medium. MCC, WSP, and SCCC house all three security levels. OCC and CCCC are the smallest facilities.

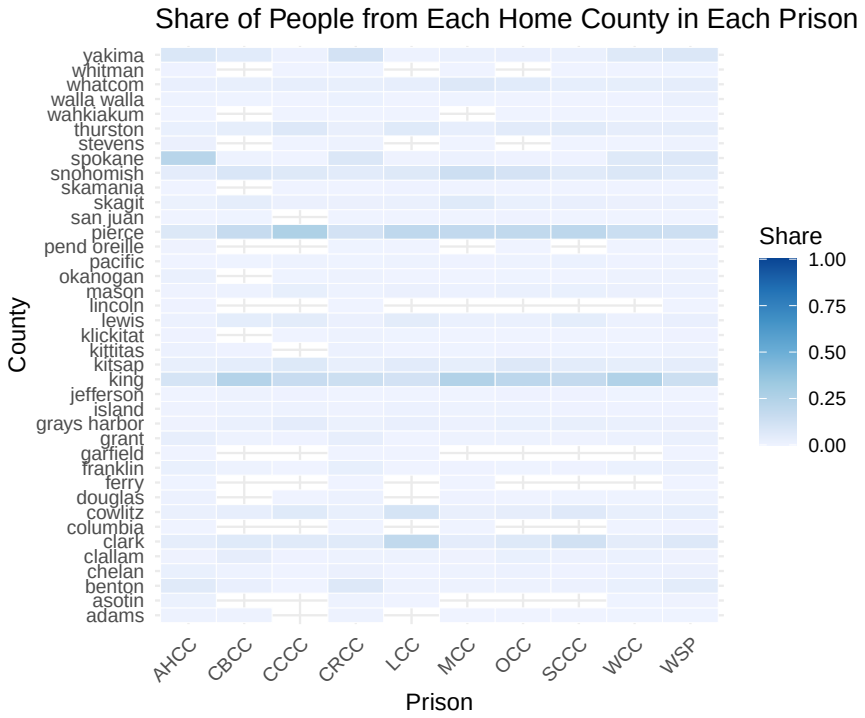

Figure A3: Heatmap of Share of Each County in Each Prison's Population

Notes: This figure is a heatmap showing the share of each county's incarcerated population that was sent to each facility. Each row is one county. Each column is one prison. The cells across a row sum to one. Darker colors indicate a higher share of the given county's incarcerated population was placed in the given prison.

D Robustness

D.1 Tables

Table A17: First Stage, Alternate Clusters

	Visit Received (1)	N Visits per Mo. (2)
Distance (100 miles)	-0.1071***	-0.5963***
s.e. (ZIP code)	(0.0057)	(0.0355)
s.e. (county)	(0.0068)	(0.0431)
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Observations	24,413	24,413
F-test (ZIP code)	443.07	443.76
F-test (county)	570.58	571.48

Notes: ***: 0.01, **: 0.05, *: 0.1. This table presents first stage results for the effect of distance on visitation using alternative standard error clusters. Point estimates are identical across clustering schemes; standard errors and F-tests are reported separately for clustering at the ZIP-code level and at the county level (the relevant sentencing jurisdiction). Visitation is measured as a binary indicator in Column (1). Visitation is measured as the count of visits per month incarcerated in Column (2). All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Table A18: Visitation Results, Alternative Clustering

	Readmit in 1 year		Readmit in 3 years	
	(1)	(2)	(3)	(4)
Visit Received	-0.0834**		-0.1107**	
s.e. (ZIP code)	(0.0343)		(0.0474)	
s.e. (county)	(0.0321)		(0.0508)	
Visit Count per Mo.		-0.0150**		-0.0199**
s.e. (ZIP code)		(0.0060)		(0.0084)
s.e. (county)		(0.0057)		(0.0094)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,413	24,413	24,413	24,413

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors are reported separately for clustering at the ZIP-code level and at the county level (the relevant sentencing jurisdiction). Visitation is measured as a binary indicator in Columns (1) and (3). Visitation is measured as the count of visits per month incarcerated in Columns (2) and (4). All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Table A19: Distance Results, Seattle Metropolitan Area Excluded

	Readmit in 1 year	Readmit in 3 years
Distance (100)	0.0076**	0.0108**
	(0.0039)	(0.0055)
Controls	Yes	Yes
Fixed effects	Yes	Yes
Observations	14,718	14,718

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors are clustered at the individual level. This table tables when distance starts to impact recidivism. Each cell is an estimate from OLS regressions of a binary indicator for prison readmittance on binary indicators for whether prison distance is greater than indicated. Each cell is a separate regression. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Table A20: First Stage, Logit and Poisson

	Visit Received Logit (1)	N Visits per Mo. Poisson (2)
Distance (100 miles)	-0.5429^{***}	-0.7831
	(0.0269)	(0.0354)
Marginal Effect	-0.1125	-0.5430
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Observations	24,413	24,413

Notes: ***: 0.01, **: 0.05, *: 0.1. This table presents first stage results for the effect of distance on visitation using alternative standard error clusters. Visitation is measured as a binary indicator in Column (1) and estimation is done using logistical regression. Visitation is measured as the count of visits per month incarcerated in Column (2) and estimation is done using a Poisson regression. The marginal effect for Column (1) is the average marginal effect. For a continuous regressor x_k: $AME = \frac{1}{n}\sum_i \beta_k p_i(1-p_i)$ where $p_i = \Lambda(x_i'\beta)$. The marginal effect for Column (2) is calculated as $e^{\beta} - 1$. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Table A21: Visitation Results, Incarcerated Individuals Only in One Facility

	Readmit in 1 year		Readmit in 3 years	
	(1)	(2)	(3)	(4)
Visit Received	-0.0597		-0.0782	
	(0.0398)		(0.0552)	
N Visits per Mo.		-0.0107		-0.0140
		(0.0071)		(0.0098)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	13,819	13,819	13,819	13,819
F-test (1st stage)	320.07	366.13	320.07	366.13

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors are clustered at the individual level and are in parentheses. Visitation is measured as a binary indicator in Columns (1) and (3). Visitation is measured as the count of visits per month incarcerated in Columns (2) and (4). All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A22: Visitation Results, More Than 1 Visit

	Readmit in 1 year		Readmit in 3 years	
Visit Received	-0.0944***		-0.1389***	
	(0.0321)		(0.0444)	
N Visits per Mo.		-0.0174***		-0.0256***
		(0.0059)		(0.0082)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,413	24,413	24,413	24,413
F-test (1st stage)		432.30		448.33

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. Anyone who only received 1 visit is recoded as being not visited and their visit count is set to 0. Visitation is measured as a binary indicator in Columns (1) and (3). Visitation is measured as the count of visits per month incarcerated in Columns (2) and (4). All models include controls for sentence length, crime type, and race, as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A23: Visitation Results, Seattle Metropolitan Area Excluded

	Readmit in 1 year		Readmit in 3 years	
Visit Received	-0.0681**		-0.0970**	
	(0.0347)		(0.0492)	
Visit Count per Mo.		-0.0131**		-0.0186**
		(0.0067)		(0.0094)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	14,718	14,718	14,718	14,718
F-stat (1st stage)	448.4	591.1	448.4	591.1

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. Visitation is measured as a binary indicator in Columns (1) and (3). Visitation is measured as the count of visits per month incarcerated in Columns (2) and (4).All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted on or after January 1, 2010 to Washington state prisons excluding those with a home county of King County, Snohomish County or Pierce County.

Table A24: Peer Familiarity: First Stage, Reduced Form, and IV Robustness

	Same-ZIP Peer Share	Readmit in 1				Readmit in 3			
	OLS	OLS	OLS	2SLS	2SLS	OLS	OLS	2SLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Distance (100 miles)	-0.0039***		0.0085**				0.0108**		
	(0.0001)		(0.0035)				(0.0049)		
Same-ZIP Peer Share		-0.1199	-0.0180		-0.0513	-0.2638	-0.3929		-0.2841
		(0.1611)	(0.1625)		(0.1618)	(0.2532)	(0.2496)		(0.2479)
Visit Count per Mo.				-0.0138**	-0.0135**			-0.0188**	-0.0169**
				(0.0057)	(0.0056)			(0.0081)	(0.0079)
Security Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24,338	24,338	24,338	24,338	24,338	24,338	24,338	24,338	24,338

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. Same-ZIP Peer Share is calculated as the fraction of the placement facility population from the individual's home ZIP code on the date of the individual's admission. Readmit in 1 is a binary indicator for prison readmission with 1 year of release. Readmit in 3 is a binary indicator for prison readmission within 3 years of release. Models in Columns (1)-(3) and (6)-(7) include controls for crime type, sentence length and criminal history as well as fixed effects for admit year, placement facility, and home county. Models in Columns (4), (5), (8) and (9) additionally include controls for parole requirement, age and the incarcerated individual race. Columns (4) and (8) present the main visitation results and Columns (5) and (9) add peer share as a control. The sample consists of all prison spells for men admitted on or after January 1, 2010 to Washington state prisons admitted to a standard facility.

Table A25: Visitation Results, Airway Heights Corrections Center Excluded

	Readmit in 1 year		Readmit in 3 years	
Visit Received	-0.0910**		-0.1377**	
	(0.0402)		(0.0571)	
Visit Count (per Mo.)		-0.0177**		-0.0268**
		(0.0078)		(0.0111)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	20,855	20,855	20,855	120,855
F-stat (1st stage)	310.8	378.2	310.8	378.2

Note: ***: 0.01, **: 0.05, *: 0.1. Standard-errors clustered at the individual level are in parentheses. Visitation is measured as a binary indicator in Columns (1) and (3). Visitation is measured as the count of visits per month incarcerated in Columns (2) and (4). All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted on or after January 1, 2010 to Washington state prisons excluding those placed in Airway Heights Correctional Center.

Table A26: The Effect of Visitation on Recidivism: Binary Instrument and Continuous Instrument

	Readmit in 1 year		**Readmit in 3 years**	
	Main Results	$>$ 99 miles	Main Results	$>$ 99 miles
	(1)	(2)	(3)	(4)
Visit Count (per mo.)	-0.0141**	-0.0120*	-0.0187**	-0.0241**
	(0.0057)	(0.0068)	(0.0081)	(0.0100)
Visit Received	-0.0781**	-0.0519	-0.1036**	-0.0988*
	(0.0318)	(0.0358)	(0.0451)	(0.0524)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,338	24,338	24,338	24,338

Note: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table compares estimates from the main specification that uses a continuous measure of distance as the instrument with a specification that instead uses a binary indicator for placement above or below the median placement distance. The outcome variable for Columns (1) and (2) is a binary indicator for whether an incarcerated individual is re-admitted within 1 year of release, and the outcome variable for Columns (3) and (4) is a binary indicator for re-admit within 3 years of release for the given spell. All specifications include controls of the individual's race, spell length, offense type, and previous prison admissions as well as fixed effects for admit year, placement facility, and home county. The untreated mean is the rate of recidivism of non-visited incarcerated individuals. The median placement distance is 99 miles from home. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A27: The Effect of Visitation on Recidivism, EFV Recipients Removed

	Readmit in 1 year		**Readmit in 3 years**	
	(1)	(2)	(3)	(4)
Visit Received	-0.0827**		-0.1165**	
	(0.0324)		(0.0460)	
Visit Count (per Month)		-0.0155**		-0.0219**
		(0.0061)		(0.0086)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,046	24,046	24,046	24,046

Note: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. The outcome variable for Columns (1) and (2) is a binary indicator for whether an incarcerated individual is re-admitted within 1 year of release, and the outcome variable for Columns (3) and (4) is a binary indicator for re-admit within 3 years of release for the given spell. All specifications include controls of the individual's race, spell length, offense type, and previous prison admissions as well as fixed effects for admit year, placement facility, and home county. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility. An incarcerated individual received at least one Extended Family Visit in 292 spells and those are dropped.

D.2 Figures

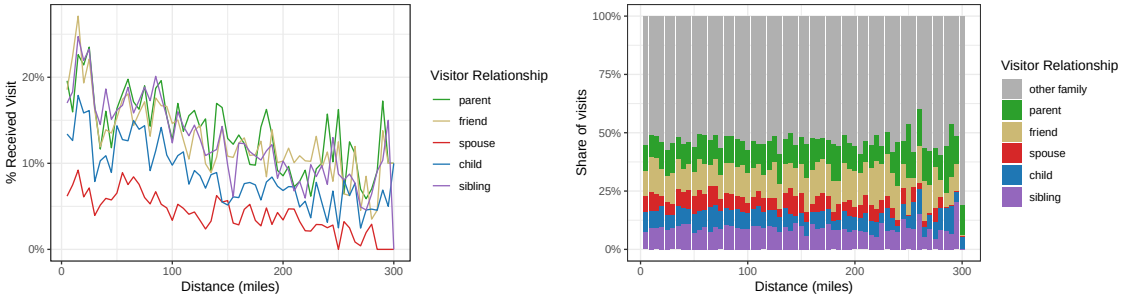

Figure A4: Visitor Composition by Distance

Notes: This figure presents the composition of visitors by their relationship to the incarcerated individual across distance. The left panel displays the percent of individuals who receive at least one visit from the given visitor type. The right panel displays the total composition of visitor types within visited individuals. *Other family* includes grandparents, cousins, uncles, aunts, and in-laws.

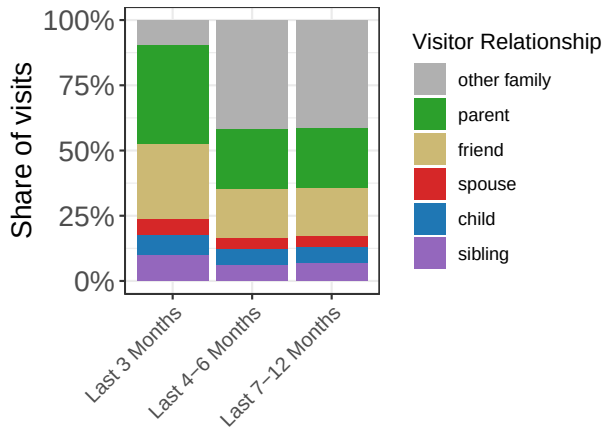

Figure A5: Visitor Composition Over Spell

Notes: This figure presents the composition of visitors by their relationship to the incarcerated individual across the spell. The sample is limited to individuals who served at least 14 months and received at least 1 visit in the last year of the spell. Visits are grouped into mutually exclusive timing groups. *Other family* includes grandparents, cousins, uncles, aunts, and in-laws.

E Additional Results

E.1 Readmissions

Although the modal individual in the sample serves one sentence, there are 23% of individuals who serve more than one sentence. I use these individuals to see whether distance has an effect even within the same individual. 39% of readmitted individuals are placed closer to home in their second admit, 39% are placed further from home, and 22% are placed in the same facility. For those placed further from home the second time, they are placed about 90 miles further. For those placed closer the second time, they are placed about 90 miles closer. There are some individuals who serve more than 2 spells during the sample time window but I focus on just the first two spells. Individuals placed closer versus further appear similar on observables. Visitation rates and intensity of visit both increase in the second spell when placed closer and decrease in the second spell when placed further. Notably, visitation probability does not change for same placements but intensity does decrease a bit.

OLS Regression of binary indicator for receiving visits in the second spell on a binary indicator for whether the individual received visits in their first spell and an indicator for whether the individual is placed closer in the second spell and their interaction.

OLS Regression of binary indicator for receiving visits in the second spell on a binary indicator for whether the individual received visits in their first spell and an indicator for whether the individual is placed

further in the second spell and their interaction.

Table A28: Individuals Serving Two Full Sentences During Sample Window

	Same Placement		Closer Placement		Further Placement	
	Spell 1	Spell 2	Spell 1	Spell 2	Spell 1	Spell 2
Median placement distance (miles)	86.70	86.70	176.70	65.92	63.81	172.96
Median admit age	30	31	30	30	30	30
% Non-white	0.40	0.40	0.35	0.35	0.37	0.37
% property crime	0.45	0.45	0.48	0.47	0.46	0.46
% violent crime	0.09	0.09	0.09	0.09	0.08	0.09
% visited	0.40	0.40	0.34	0.36	0.42	0.35
N visits per month	0.70	0.67	0.39	0.71	0.73	0.45
N Individuals	535		955		956	

Notes: The sample consists of all men admitted to Washington state prisons more than once on or after January 1, 2010 and released as of December 31, 2016 for all spells. It is limited to individuals who were placed in a standard facility and had a non-missing home ZIP code. Individuals can enter prison more than twice in the sample window, but attention is restricted to the first two spells, as admissions beyond there are exceedingly rare.

Table A29: Visits in Second Spell

	Visited in Second Spell
Closer second placement	0.0351*
	(0.0206)
Visited in first spell	0.3830***
	(0.0231)
Closer second placement × Visited in first spell	-0.0193
	(0.0384)
Further second placement	-0.0444**
	(0.0205)
Visited in first spell	0.3914***
	(0.0239)
Further second placement × Visited in first spell	-0.0356
	(0.0374)
Observations	2,689

Notes: ***: 0.01, **: 0.05, *: 0.1. Each panel represents a separate OLS regression. *Closer second placement* is an indicator for whether the individual was placed in a facility that was closer to their home in their second prison spell in the sample relative to their first prison spell in the sample. The excluded category is individuals placed at the same distance or closer. *Visited in first spell* is an indicator for whether an individual received at least one visit in their first spell in the sample. The sample consists of all men admitted to Washington state prisons more than once on or after January 1, 2010 and released as of December 31, 2016 for all spells. It is limited to individuals who were placed in a standard facility and had a non-missing home ZIP code. Individuals can enter prison more than twice in the sample window, but attention is restricted to the first two spells, as admissions beyond there are exceedingly rare.

E.2 Tables

Table A30: Distance Threshold Effects on Recidivism

	Readmit in 1 year (1)	Readmit in 3 years (2)
Distance > 30 miles	0.0078	0.0097
	(0.0063)	(0.0095)
Distance > 50 miles	0.0057	0.0086
	(0.0050)	(0.0073)
Distance > 60 miles	0.0081*	0.0093
	(0.0048)	(0.0070)
Distance > 70 miles	0.0087*	0.0102
	(0.0047)	(0.0069)
Distance > 80 miles	0.0109**	0.0164**
	(0.0046)	(0.0068)
Distance > 90 miles	0.0132***	0.0198***
	(0.0046)	(0.0068)
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Observations	24,338	24,338

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors are clustered at the individual level. This table tables when distance starts to impact recidivism. Each cell is an estimate from OLS regressions of a binary indicator for prison readmittance on binary indicators for whether prison distance is greater than indicated. Each cell is a separate regression. All models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code.

Table A31: The Effect of Visitation on Release from Lower Security Facility

	Release from Lower Security (1)	**Release from Lower or Same Security** (2)
Visit Received	0.1150**	0.2142***
	(0.0376)	(0.0317)
Visit Count (per Month)	0.0209**	0.0389***
	(0.0069)	(0.0057)
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Untreated mean	0.20	0.86
Observations	24,046	24,046

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. The outcome variable for Column (1) is a binary indicator for whether an individual's release facility was a lower security level than their placement facility. An individual is classified as being released from a lower security facility if they were either released from work-release or if an individual was admitted to a facility that houses medium and close security levels and was released from a facility that houses minimum only or minimum and medium security levels. The outcome variable for Column (2) is a binary indicator for whether an individual's release facility was a lower or same security level than their placement facility. An individual is classified as being released from a lower or same security facility if they were classified as lower in Column (1) or their release facility houses the same security levels as their placement facility. All specifications include controls of the individual's race, spell length, offense type, and previous prison admissions as well as fixed effects for admit year, placement facility, and home county. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A32: The Effect of Visitation on Housing Stability

	Housing Voucher Used	
Visit Count (per month)	-0.0305***	
	(0.0080)	
Visit Received		-0.1618***
		(0.0424)
Controls	Yes	Yes
Fixed-effects	Yes	Yes
Observations	20,038	20,038
Non-visited Voucher Use Rate	0.25	0.25

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents 2SLS estimates of the effect of visitation on housing voucher use. The outcome variable is a binary indicator for whether an incarcerated individual's required a housing voucher in the given spell. Both models include controls for sentence length, crime type, incarcerated individual race, and criminal history as well as fixed effects for admit year, placement facility, and home county. The sample consists of all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016 who were placed in a standard facility and had a non-missing home ZIP code. Six percent of spells are missing information on post-release housing and are excluded.

Table A33: Joint Housing and Prison Readmission Outcomes

	Readmit, Voucher (1)	Readmit, No Voucher (2)	Voucher, No Readmit (3)	No Readmit, No Voucher (4)
Readmit in 1 year				
Visit Count (per Mo.)	-0.0067*	-0.0107*	-0.0237***	0.0411***
	(0.0036)	(0.0057)	(0.0076)	(0.0090)
Visit Received	-0.0356*	-0.0569*	-0.1265***	0.2190***
	(0.0194)	(0.0304)	(0.0405)	(0.0478)
Non-visited outcome mean	0.03	0.07	0.22	0.67
Readmit in 3 years				
Visit Count (per Mo.)	-0.0148***	-0.0080	-0.0157**	0.0384***
	(0.0054)	(0.0085)	(0.0069)	(0.0100)
Visit Received	-0.0787***	-0.0427	-0.0835**	0.2048***
	(0.0289)	(0.0455)	(0.0366)	(0.0534)
Non-visited outcome mean	0.08	0.17	0.20	0.55
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	19,953	19,953	19,953	19,953

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents 2SLS estimates of the effect of visits (a binary indicator for receiving any visits) on joint housing voucher use and prison readmission within 1 and 3 years of release. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The untreated mean is the readmit rate for non-visited incarcerated men in the relevant sample.

Table A34: Nonlinear Visitation Effects

	Readmit in 3 years			
	(1)	(2)	(3)	(4)
Visit Count (per Mo.)	-0.0199**	-0.1234	0.0128	
	(0.0082)	(0.0953)	(0.0309)	
Visit Count^2		0.0096		
		(0.0090)		
Visit Received			-0.2152	
			(0.1901)	
$0 < visits <= med.$				-0.2725
				(0.3285)
$visits > med.$				-0.1486***
				(0.0515)
Controls	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes
Observations	24,413	24,413	24,413	24,413

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. The outcome variable is a binary indicator for whether an incarcerated individual is readmitted to prison within 3 years of release. The complete set of controls described in Section 3 are included as well as fixed effects for admit year, placement facility, and home county. Column (1) uses only distance as an instrument while Columns (2)-(4) use distance and distance squared. Conditional on receiving at least one visits, the median number of visits per month is 0.91. Column (4) splits visitation into 0 visits, 0 to median, and above median. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A35: Treatment Effect Heterogeneity by Observable Characteristics

	Readmit in 3 Years					
	Age		Crime Type		Race	
	young	old	violent	non-violent	white	non-white
	(1)	(2)	(3)	(4)	(5)	(6)
Visit Received	-0.1053*	-0.1603**	-0.1565	-0.1445***	-0.0977*	-0.2833***
	(0.0603)	(0.0699)	(0.0958)	(0.0504)	(0.0524)	(0.0906)
Visit Count (per Mo.)	-0.0178*	-0.0315**	-0.0174*	-0.0298***	-0.0181*	-0.0475***
	(0.0102)	(0.0137)	(0.0105)	(0.0104)	(0.0097)	(0.0152)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,353	11,985	4,063	20,275	15,212	9,126
Untreated mean	0.33	0.25	0.16	0.29	0.29	0.27

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents 2SLS estimates of the effect of visitation on readmission to prison within 3 years of release for splits of the sample. Visit count (per mo.) is the count of visits received in a given spell normalized by the number of in-prison months for a given prisoner-spell. The outcome variable is a binary indicator for whether an incarcerated individual is readmitted to prison within 3 years of release. The young sub-sample is men who were age 33 or young at time of admission, and the old sub-sample is men who were age 34 or older at the time of admissions. The violent sample consists of individuals convicted of a violent crime in the given spell. The non-violent sample consists of individuals who were only convicted for non-violent crimes in the given spell. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, indicators the type of crime the individual was convicted for in the given spell, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The untreated mean is the readmit rate for non-visited incarcerated men in the relevant sample.

Table A36: Treatment Effect Heterogeneity by New Crime Type

	Readmit in 3 years							
	New Violent Crime		New Drug Crime		New Sex Crime		New Property Crime	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Visit Received	0.0042	0.0013	-0.0385	-0.0476*	-0.0122*	-0.0120*	-0.1083***	-0.1019***
	(0.0122)	(0.0122)	(0.0279)	(0.0276)	(0.0063)	(0.0063)	(0.0323)	(0.0310)
Current drug offense		-0.0011		0.0985***		-0.0015**		-0.0163***
		(0.0017)		(0.0048)		(0.0007)		(0.0042)
Current violent offense		0.0539***		-0.0294***		0.0006		-0.0777***
		(0.0052)		(0.0045)		(0.0017)		(0.0071)
Current sex offense		-0.0040		-0.0244***		0.0444***		-0.0445***
		(0.0036)		(0.0040)		(0.0061)		(0.0046)
Current property crime		0.0043**		0.0227***		-0.0023***		0.1732***
		(0.0019)		(0.0037)		(0.0007)		(0.0056)
Current Crime	No	Yes	No	Yes	No	Yes	No	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	24,413	24,413	24,413	24,413	24,413	24,413	24,413	24,413
Untreated mean	0.02	0.02	0.07	0.07	0.004	0.004	0.10	0.10

Notes: ***: 0.01, **: 0.05, *: 0.1. Standard errors clustered at the individual level are in parentheses. This table presents 2SLS regression results for the effect of visitation on subsequent crime. The outcome variable is a binary indicator for whether an incarcerated individual is readmitted to prison within 3 years of release for the given crime type. Columns (2), (4), (6), and (8) add controls for the current conviction. Controls for the individual's race, the individual's age at the time of prison admission, the length of the sentence in months, and an indicator for if this spell is the individual's first prison spell, as well as fixed effects for year of admission, home county and facility are included. The untreated mean is the readmit rate for the given crime type for non-visited incarcerated individuals. The sample includes all prison spells for men admitted to Washington state prisons on or after January 1, 2010 and released as of December 31, 2016, had a non-missing home ZIP code and whose placement facility is the same as their release facility.

Table A37: Counterfactual Placement Simulations

	Mean Δ_{Dist}	Mean Δ_{visit}	Mean $\Delta_{Readmit1}$	Mean $\Delta_{Readmit3}$	Mean Δ_{Days}
No Constraints	−82 miles	0.087	−0.007	−0.010	-12 days
Security & Capacity Constraints	−40 miles	0.040	−0.003	−0.004	-4 days
+ Age Priority	−31 miles	0.030	−0.004	−0.005	-5 days

Notes: Mean Δ_{dist} is the average change in placement distance from the placement simulation. A negative number indicates individuals were placed closer to home. Mean Δ_{visit} is the change in the probability of visitation given the change in the probability of distance. This is estimated as Mean $\Delta_{dist} \times \alpha_1$ from Equation 3 (first stage estimate of the effect of distance on visitation). Mean $\Delta_{Readmit1}$ is the average change in the probability of readmission within 1 year of release given the change in visitation. This is estimated as Mean $\Delta_{visit} \times \gamma_1$ from Equation 2 (2SLS estimate of the effect of visitation on recidivism), when the outcome variable is a binary indicator for prison readmission within 1 year. Mean $\Delta_{Readmit3}$ is the average change in the probability of readmission within 3 years of release given the change in visitation. This is estimated as Mean $\Delta_{visit} \times \alpha_1$ from Equation 2 (2SLS estimate of the effect of visitation on recidivism), when the outcome variable is a binary indicator for prison readmission within 3 years. Mean Δ_{Days} is the average change in number of days served in prison for the five years following sentencing. This is estimated as Mean $\Delta_{visit} \times \alpha_1$ from Equation 2 (2SLS estimate of the effect of visitation on recidivism), when the outcome variable is the count of days served in prison within 5 years post-sentencing.

References

RCW 9.94A.729 (Washington State Legislature). 2025. *Revised Code of Washington: 9.94A.729: Earned Release Time–Risk Assessments.*

Abadie, Alberto. 2003. "Semiparametric Instrumental Variable Estimation of Treatment Response Models." *Journal of Econometrics* 113 (2): 231–263.

Agan, Amanda, and Michael D. Makowsky. 2018a. "Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment." *The Quarterly Journal of Economics* 133.

———. 2018b. "The Minimum Wage, EITC, and Criminal Recidivism." *Working paper.*

Alsan, Marcella, Arkey Barnett, Peter Hull, and Crystal S. Yang. 2025. ""Something Works" in U.S. Jails: Misconduct and Recidivism Effects of the IGNITE Program." *The Quarterly Journal of Economics.*

Andersen, Lars Højsgaard, Maria Fitzpatrick, and Christopher Wildeman. 2024. "How Does Visitation Affect Incarcerated Persons and Their Families? Estimates Using Exogenous Variation in Visits Driven by Distance between Home and Prison." *Journal of Human Resources* 59 (2): 389–415. https://doi.org/10.3368/jhr.0821-11953R2.

Angrist, Joshua D., Kathryn Graddy, and Guido W. Imbens. 2000. "The Interpretation of Instrumental Variables Estimators in Simultaneous Equations Models with an Application to the Demand for Fish." *The Review of Economic Studies* 67 (3): 499–527.

Angrist, Joshua D., and Guido W. Imbens. 1994. "Identification and Estimation of Local Average Treatment Effects." *Econometrics* 62 (2).

———. 1995. "Two-Stage Least Squares Estimation of Average Causal Effects in Models with Variable Treatment Intensity." *Journal of the American Statistical Association* 90 (430): 431–442.

Arizona Department of Corrections. 2023. *Department Order 801: Inmate Classification (Eff. 12–1–23).* Official policy document. Available at the Arizona Department of Corrections website, December. https://corrections.az.gov/sites/default/files/documents/policies/800/DO%20801%20-%20Eff.%2012-1-23.pdf.

Arkansas General Assembly. 2024. *Family Considerations in Inmate Placement and Visitation.* Technical report Ark. Code Ann. § 12-29-802. Arkansas General Assembly.

Arteaga, C. 2023. "Parental Incarceration and Children's Educational Attainment." *The Review of Economics and Statistics* 105 (6): 1394–1410.

Bagdon-Cox, C. 2023. *Overview of the Washington ONE Risk Assessment Tool.* Technical report. Washington State Department of Corrections. https://www.doc.wa.gov/ONE-risk-assessment-tool.

Bales, W. D., and D. P. Mears. 2008. "Inmate Social Ties and the Transition to Society: Does Visitation Reduce Recidivism?" *Journal of Research in Crime and Delinquency* 45 (3): 287–321.

Barden, Bret, Randall Juras, Cindy Redcross, Mary Farrell, and Dan Bloom. 2018. *The Enhanced Transitional Jobs Demonstration: New Perspectives on Creating Jobs. Final Impacts of the Next Generation of Subsidized Employment Programs.* Technical report. Washington, DC: Office of Planning, Research, et al.

Bhuller, M., G. B. Dahl, K. V. Løken, and M. Mogstad. 2020a. "Incarceration, Recidivism and Employment." *Journal of Political Economy* 128:1269–1324.

———. 2020b. "Intergenerational Effects of Incarceration." *AEA Papers and Proceedings* 110:234–240.

Black, Dan A., Joonhwi Joo, Robert LaLonde, Jeffrey A. Smith, and Evan J. Taylor. 2022. "Simple Tests for Selecion: Learning More from Instrumental Variables." *Labour Economics* 79.

Blandhol, Christine, John Bonney, Magne Mogstad, and Alexander Torgovitsky. 2022. "When is TSLS Actually LATE?" *NBER Working Paper Series.*

Borusyak, Kirill, and Peter Hull. 2024. "Negative Weights Are No Concern in Design-Based Specifications." *AEA Papers and Proceedings.*

Boudin, Chesa, Trevor Stutz, and Aaron Littman. 2013. "Prison Visitation Policies: A Fifty-State Survey." *Yale Law and Policy Review* 32 (1).

Bui, Quoctrung, and Claire Cain Miller. 2015. "The Typical American Lives Only 18 Miles From Mom." https://www.nytimes.com/interactive/2015/12/24/upshot/24up-family.html.

Caffery, C., M. Clark, J. M. Eddy, J. Kjellstrand, and J. Smith. 2021. "Reentering the Community after Prison: Perspective on the Role and Importance of Social Support." *American Journal of Criminal Justice* 47 (4): 520–538.

Calamunci, Francesca, Gianmarco Daniele, Giovanni Mastrobuoni, and Daniele Terlizzese. 2025. *Women Behind Bars: Do Single-Gender Prisons Reduce Recidivism?* Technical report 25/04. EIEF Working Paper. https://eief.it/eief/images/WP_25.04.pdf.

Campbell, Romaine, and Logan Lee. unpublished. "Prison Education and Prisoner Outcomes." *unpublished.*

Carson, E. A., and R. Kluckow. 2023. *Prisoners in 2022.* Technical report. Bureau of Justice Statistics. https://www.bjs.gov/prisoners-in-2022.

Casey-Acevedo, K., and T. Bakken. 2002. "Visiting Women in Prison: Who Visits and Who Cares." *Journal of Offender Rehabilitation* 34 (3): 67–83.

Chen, M. Keith, and Jesse M. Shapiro. 2007. "Do Harsher Prison Conditions Reduce Recidivism? A Discontinuity-Based Approach." *American Law and Economics Review* 9 (1): 1–29. https://doi.org/10.1093/aler/ahm006. https://doi.org/10.1093/aler/ahm006.

Cochran, Joshua C. 2012. "Examining the Relationship Between Visitation and Prisoner Misconduct." *Journal of Criminal Justice* 40 (5): 433–440.

———. 2014. "Breaches in the Wall: Imprisonment, Social Support, and Recidivism." *Journal of Research in Crime and Delinquency* 51:200–229.

Cochran, Joshua C., D.P. Mears, W.D. Bales, and E.A. Stewart. 2016. "Spatial Distance, Community Disadvantage, and Racial and Ethnic Variation in Prison Inmate Access to Social Ties." *Journal of Research in Crime and Delinquency* 53:220–254.

Congressional Research Service. 2019. *The First Step Act of 2018: An Overview.* CRS Report R45558. Congressional Research Service. https://www.congress.gov/crs-product/R45558.

Cook, P., S. Kang, A. Braga, J. Ludwig, and M. O'Brien. 2015. "An Experimental Evaluation of a Comprehensive Employment-Oriented Prisoner Re-entry Program." *Journal of Quantitative Criminology* 31 (3): 355–382.

Cotter, Ryan, Courtney Semisch, and David Rutter. 2022. *Length of Incarceration and Recidivism.* Technical report. United States Sentencing Commission.

D'Amico, Ronald, and Kim Hui. 2018. *Evaluation of Seven Second Chance Act Adult Demonstration Programs: Impact Findings at 30 Months.* Technical report. U.S. Department of Justice.

d'Este, Rocco. 2025. "Inside Prison: The Effects of a Blanket Ban on New Psychoactive Substances." Advance article, published online November 3, 2025, *The Economic Journal,* https://doi.org/10.1093/ej/ueaf114. https://doi.org/10.1093/ej/ueaf114.

Deess, Perry, Charlotte Allen, and Marta Nelson. 1999. *The First Month Out: Post-Incarceration Experiences in New York City.* Technical report. Vera Institute of Justice.

Dobbie, W., H. Grönqvist, S. Niknami, M. Palme, and M. Priks. 2018. "The Intergenerational Effects of Parental Incarceration." *NBER Working Paper Series.*

Doleac, Jennifer L. 2017. "The Effects of DNA Databases on Crime." *American Economic Journal: Applied Economics* 9 (1): 165–201.

———. 2019. "Wrap-around Services Don't Improve Prisoner Reentry Outcomes." *Journal of Policy Analysis and Management* 38 (2): 508–514.

———. 2023. "Encouraging Desistance from Crime." *Journal of Economic Literature* 61 (2): 383–427.

Duwe, G., and V. Clark. 2013. "Blessed be the Social Tie that Binds: The Effects of Prison Visitation on Offender Recidivism." *Criminal Justice Policy Review* 24 (3): 271–296.

———. 2017. "Distance Matters: Examining the Factors that Impact Prisoner Visitation in Minnesota." *Criminal Justice and Behavior* 4:184–204.

Fair, H., and R. Walmsley. 2024. *World Prison Population List (14th edition).* Technical report. Institute for Crime and Justice Policy Research. https://www.prisonstudies.org/sites/default/files/resources/downloads/world_prison_population_list_14th_edition.pdf.

Finlay, K., M. Mueller-Smith, and B. Street. 2023. "Children's Indirect Exposure to the U.S. Justice System: Evidence From Longitudinal Links between Survey and Administrative Data." *The Quarterly Journal of Economics* 138 (4): 2181–2224.

Frolich, Markus. 2007. "Nonparametric IV Estimation of Local Average Treatment Effects with Covariates." *Journal of Econometrics* 139 (1): 35–75.

Gelb, A., and T. Velazquez. 2018. *The Changing State of Recidivism: Fewer People Going Back to Prison.* Technical report. Pew Research Center. https://www.pewtrusts.org/recidivism-2018.

Gottlieb, Aaron, and Leah A. Jacobs. 2020. "The Effect of Housing Circumstances on Recidivism: Evidence From a Sample of People on Probation in San Francisco." *Criminal Justice and Behavior* 47 (9).

Grommon, Eric, William S. Davidson II, and Timothy S. Bynum. 2013. "A Randomized Trial of a Multimodal Community-Based Prisoner Reentry Program Emphasizing Substance Abuse Treatment." *Journal of Offender Rehabilitation* 52 (4): 287–309.

Harding, David J., Jeffrey D. Morenoff, and Claire W. Herbert. 2013. "Home is Hard to Find: Neighborhoods, Institutions, and the Residential Trajectories of Returning Prisoners." *The Annals of the American Academy of Political and Social Science* 647 (1): 214–236.

Hawaii State Legislature. 2024. *Children of incarcerated parents; families.* Technical report Haw. Rev. Stat. § 353H-5. Hawaii Revised Statutes.

Heckman, James J. 1975. "The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for Such Models." *Annals of Economic and Social Measurement* 5 (4): 475–492.

Heckman, James J., Sergio Urzua, and Edward Vytlacil. 2006. "Understanding Instrumental Variables in Models with Essential Heterogeneity." *The Review of Economics and Statistics* 88 (3): 389–432.

Hirschi, Travis. 1969. *Causes of Delinquency.* University of California Press.

Hirschi, Travis, and Michael R. Gottfredson. 1983. "Age and the Explanation of Crime." *American Journal of Sociology* 89 (3): 552–584. https://doi.org/10.1086/227905.

Hull, Peter. 2025. ""One Weird Trick" to Characterize Effective Populations in Design-Based Specifications." *Unpublished Note.*

Hunt, Kim Steven, and Billy II Easley. 2017. *The Effects of Aging on Recidivism Among Federal Offenders.* Technical report. United States Sentencing Commission.

Kline, Patrick, and Christopher R. Walters. 2016. "Evaluating Public Programs with Close Substitutes: The Case of Head Start." *The Quarterly Journal of Economics* 131 (4): 1795–1848.

Knoth, Lauren, and M. Hirsch. 2020. "Washington Offender Needs Evaluation (Washington ONE): Evaluating Community Contact Impacts." *Washington State Institute for Public Policy.*

La Vigne, N. G., T. L. Shollenberger, and S. A. Debus. 2009. *One Year Out: Tracking the Experiences of Male Prisoners Returning to Houston.* Technical report. Urban Institute. https://www.urban.org/research/publication/one-year-out-tracking-experiences-male-prisoners-returning-houston.

La Vigne, Nancy G., and Rebecca Naser. 2006. "Family Support in the Prisoner Reentry Process." *Journal of Offender Rehabilitation* 43 (1).

La Vigne, Nancy G., Jeremy Travis, and Christy A. Visher. 2004. *Returning Home: Understanding the Challenges of Prisoner Reentry. Maryland Pilot Study: Findings From Baltimore.* Technical report. The Urban Institute.

Laub, John H., and Robert J. Sampson. 1993. "Crime in the Making: Pathways and Turning Points Through Life." *Crime and Deliquency* 39 (3).

Lee, Logan. 2019a. "Far From Home and All Alone: The Impact of Prison Visitation on Recidivism." *American Law and Economics Review.*

———. 2019b. "The Impact of Prison Programming on Recidivism." *Corrections* 4 (4): 252–271.

———. 2023. "Halfway Home? Residential Housing and Reincarceration." *American Economic Journal: Applied Economics.*

Lewetz, D., S. Stieger, and D. Willinger. 2023. "Face-to-face more important than digital communication for mental health during the pandemic." *Scientific Reports.*

Looney, Adam, and Nicholas Turner. 2018. "Work and Opportunity Before and After Incarceration." *The Brookings Institution.*

Massenkoff, Maxim, and Evan Rose. 2024. "Family Formation and Crime." *American Economic Journal: Applied Economics* 16 (4): 444–483.

Mears, D. P., J. C. Cochran, S. E. Siennick, and W. D. Bales. 2012. "Prison Visitation and Recidivism." *Justice Quarterly* 29 (6): 888–918.

Mitchell, M. M., K. Spooner, D. Jia, and Y. Zhang. 2016. "The Effect of Prison Visitation on Reentry Success: A Meta-analysis." *Journal of Criminal Justice* 47:74–83.

Mueller-Smith, Michael. 2015. "The Criminal and Labor Market Impacts of Incarceration." *Working Paper.*

Mueller-Smith, Michael, and Kevin T. Schnepel. 2021. "Diversion in the Criminal Justice System." *The Review of Economic Studies* 88 (2): 883–936.

New York State Department of Corrections and Community Supervision. 2023a. *Proximity to Minor Children: 2022 Legislative Report.* Legislative Report. Albany, NY: New York State Department of Corrections and Community Supervision. https://doccs.ny.gov/system/files/documents/2023/02/final-2022-proximity-to-minor-children-legislative-report-002.pdf.

———. 2023b. *Proximity to Minor Children: Legislative Report 2023.* Legislative Report. Required by N.Y. Correction Law §72-C. New York State Department of Corrections and Community Supervision, October. https://doccs.ny.gov/system/files/documents/2023/10/2023-proximity-to-minor-children-legislative-report-final.pdf.

Norris, S., M. Peceno, and J. Weaver. 2021. "The Effects of Parental and Sibling Incarceration: Evidence from Ohio." *American Economics Review* 111 (9): 2926–2963.

Office of the Corrections Ombuds. 2023. *Prison-Initiated Disciplinary Process Recommendations.* Technical report. Washington State.

Okdie, Brad J., Rosanna E. Guadagno, Frank Bernieri, Andrew L. Geers, and Sara McLarney-Vesotski. 2011. "Getting to know you: The impact of self-disclosure on interpersonal attraction in computer-mediated communication and face-to-face communication." *Computers in Human Behavior* 27 (5): 1907–1914.

Palmer, Caroline, David C. Phillips, and James X. Sullivan. 2019. "Does Emergency Financial Assistance Reduce Crime?" *Journal of Public Economics* 169:34–51.

Redcross, Cindy, and Erin Jacobs Valentine. 2015. "Transitional Jobs After Release from Prison: Effects on Employment and Recidivism." *IZA Journal of Labory Policy* 4.

Rose, Evan K., and Yotam Shem-Tov. 2021. "How Does Incarceration Affect Reoffending? Estimating the Dose-Response Function." *Journal of Political Economy* 129 (12).

Roy, A. 1951. "Some Thoughts on the Distribution of Earnings." *Oxford Economic Papers* 3 (2): 135–146.

Ryan, J. P., and H. Yang. 2005. "Family Contact and Recidivism: A Longitudinal Study of Adjudicated Delinquents in Residential Care." *Social Work Research* 29 (1): 31–39.

Słoczyński, Tymon, S. Derya Uysal, and Jeffrey M. Wooldridge. 2024. "Abadie's Kappa and Weighting Estimators of the Local Average Treatment Effect." *Journal of Business and Economic Statistics* 43 (1): 164–77.

Tan, Zhiqiang. 2006. "Regression and Weighting Methods for Causal Inference Using Instrumental Variables." *Journal of the American Statistical Association* 101:1607–1618.

Tuttle, Cody. 2019. "Snapping Back: Food Stamp Bans and Criminal Recidivism." *American Economic Journal: Economic Policy* 11 (2): 301–327.

Vytlacil, Edward. 2003. "Independence, Monotonicity, and Latent Index Models: An Equivalence Result." *Econometrica* 70 (1): 331–341.

Washington Administrative Code. 2023. *WAC 137-28-350.* Technical report. Washington State Legislature.

Washington Department of Corrections. 2021. "Classification and Custody Facility Plan Review." *DOC 300.380.*

———. 2022a. *FY2022 Cost per Incarcerated Individual per Day – All Institution Costs.*

———. 2022b. "Release/Transfer Sponsor Orientation Checklist." *DOC 11-012.*

Washington Department of Corrections. 2022c. "Transition and Release." *DOC 350.200.*

———. 2023a. "Intake." *DOC 310.100.*

———. 2023b. "Reception, Initial Classification, and Custody Facility Plan." *DOC 310.150.*

———. 2024a. "Eligibility Requirements for Visitors." *DOC 450.300.*

———. 2024b. "Orientation at Men's Prisons." *DOC 310.000.*

———. 2024c. "Visits for Incarcerated Individuals." *DOC 450.300.*

Weber, E. Anna. 2020. "The Big House Far from Home: Spatial Distance and Criminal Recidivism." Job market paper.

Wiegand, Andrew, and Jesse Sussell. 2016. *Evaluation of the Re-Integration of Ex-Offenders (RExO) Program: Final Report.* Technical report. Oakland, CA: Social Policy Research Associates.

Wooldredge, John D. 1999. "Inmate Experiences and Psychological Well-Being." *Criminal Justice and Behavior* 26 (2).

Yang, Crystal S. 2017. "Does Public Assistance Reduce Recidivism?" *American Economic Review* 107 (5): 551–555.