Demographics, Trends, and Disparities in Colorado Felony Murder Cases:
A Statistical Portrait

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Executive Summary

Between 1990 and 2021, for adult offenders, Colorado punished felony murder with a mandatory minimum sentence of life without parole. Felony murder was classified as a class 1 felony, along with other theories of first-degree murder, such as after-deliberation and extreme indifference murder, as well as first-degree kidnapping, until Governor Jared Polis signed Senate Bill 124, effective September 15, 2021, reclassifying the offense to a class 2 felony. As a result, felony murder is now punishable by a sentence of 16-48 years.

The purpose of this study is to provide a statistical portrait of people who have been convicted of felony murder between 1990 and 2021. Data were acquired through open records requests from the Colorado Department of Corrections ("CDOC") and the State Court Administrator's Office ("SCAO"), along with public data from the Colorado State Demography Office. This study's primary unit of analysis is a criminal case, meaning a criminal case identifiable by a single case number in which a person was found guilty. With respect to felony murder, a felony murder case means one with one or more felony murder convictions where no other theory of first-degree murder was proven with respect to that or those homicide(s).

A series of analyses enumerating felony murder cases and incarceration and comparing them to various reference groups produced the following observations:

1. Sentences were imposed in 196 felony murder cases and for 215 felony murder convictions between 2000 and 2021 (per data from SCAO, which provides aggregate judicial records from 2000 onwards).
2. Felony murder constitutes a non-trivial share of the 877 cases (22%) and 1,102 convictions (20%) for class 1 felonies found in judicial records between 2000 and 2021.
3. Matching judicial (SCAO) records to corrections (CDOC) data, there are 176 people in the current CDOC population who were sentenced for a single-theory felony murder conviction between 2000 and 2021, including 16 juveniles.
4. Over half (53%) of felony murder cases sentenced between 2000 and 2021 involved defendants who were younger than age 26 at the time of offense, compared to 42% of cases where sentences for other class 1 felonies were imposed and 46% of people presently incarcerated for other class 1 felonies.
5. There were no differences between men and women in the likelihood of felony murder conviction or incarceration, as compared to their rate of conviction and incarceration for other class 1 felonies.
6. Among the current CDOC population, Black people compose 35% of those who were sentenced for at least one single-theory FM from 2000 to 2021, followed by White (33%) and Hispanic (28%) people.
7. Among those incarcerated for Class 1 felonies, Black people were 43% more likely than White people to be convicted of and presently incarcerated for felony murder.
8. No other statistically significant racial/ethnic disparities in felony murder conviction and incarceration rates were observed.
9. There was no temporal trend in felony murder cases observed between 2000 and 2021.
10. There were some geographic differences across judicial districts in felony murder convictions and incarcerations, which were mostly explained by case characteristics, such as the race and age of the defendant.

The results support a conclusion that people convicted of felony murder constitute a distinctive class of prisoners owing to the reclassification of the offense and demographic disparities which mark that group, particularly around age and race.

Motivation

In the State of Colorado, a person is liable for felony murder ("FM") if he or she commits or attempts to commit arson, robbery, burglary, kidnapping, sexual assault, or escape from custody, and in the course of or in furtherance of the crime (including flight therefrom), the death of a person is caused by anyone involved in the criminal act. Colorado's FM statute does not require any culpable mental state, or mens rea, with regard to the killing.

From 1990 until 2021, FM was classified as first-degree murder in Colorado (C.R.S. §18-3-102 (1)(b)), a class 1 felony. Other class 1 felonies in Colorado include non-FM theories of first-degree murder such as after-deliberation murder, extreme indifference murder, and knowingly causing the death of a child under age 12 by a person in a position of trust, as well as first-degree murder of a peace officer or firefighter performing official duties, kidnapping in the first-degree, certain assaults committed during escapes from lawful confinement, and treason. Class 1 felonies are considered the most serious crimes in Colorado and adults convicted of them are subject to mandatory life-without-parole (LWOP) imprisonment.

On April 26, 2021, Governor Jared Polis signed Senate Bill 21-124, which reclassified FM to a class 2 felony. The corresponding punishment for a FM conviction includes a range of 16-48 years of imprisonment. Class 2 felonies also allow for the accrual of earned time and parole eligibility, meaning that a person convicted of FM after April 26, 2021 could serve 12 years or less under a minimum sentence. Importantly, the passage of SB 21-124 does not apply retroactively. Thus, there are a number of people in Colorado who were convicted of FM as the only theory of first-degree murder liability that are likely currently serving mandatory LWOP sentences who received no benefit from the change in the law.

The purpose of this study is to provide a statistical portrait of the individuals convicted of FM between 1990 and 2021 at the request of Spero Justice Center, a nonprofit organization with a focus on extreme sentencing practices. There are three main goals associated with this research:

1. Estimate the number of individuals who have been sentenced to LWOP for FM convictions in Colorado.

2. Describe the demographics, locations, and temporal trends among individuals who received FM convictions in Colorado.

3. Identify disparities in demographics, locations, and temporal trends between individuals with FM convictions and various comparison groups.

The data used to accomplish these goals come from various sources, including: (1) aggregate judicial records of people sentenced for class 1 felonies between 2000 and 2021, as provided by the SCAO; (2) correctional data pertaining to Colorado state prisoners held in the custody of the CDOC as of March 2023; and (3) population and demographic data for the State of Colorado made available by the State Demography Office.

On January 13, 2023, the study protocol was preregistered on the Open Science Framework, consistent with efforts to improve accessibility and transparency in scientific reporting.[1] Data acquired via open records requests were provided on December 1, 2022, but were not accessed until after registration of the study protocol.[2] Six confirmatory hypotheses were included in the registration, concerning age, gender, race/ethnicity, judicial district, and temporal trends, based on discussions of anticipated empirical regularities with the Spero Justice Center, as follows:

- H1. People convicted of FM will be younger in age in years on average at the date when the offense occurred than individuals convicted of other class 1 felonies.

- H2. The proportion of people convicted of FM between ages 18 and 25 years at the date when the offense occurred will be greater than the proportion among people convicted of other class 1 felonies.

- H3. The proportion of people convicted of FM who are women will be greater than the proportion among people convicted of other class 1 felonies.

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[1] Pyrooz, David, Kristen Nelson, and Dan Meyer. 2023. "Mandatory Life-without-parole for Felony-Murder Convictions in Colorado: A Statistical Portrait." OSF. January 13. https://osf.io/29fqc
[2] A second request was made to the Department of Corrections, which was fulfilled March 2023.

- H4. The proportion of people convicted of FM who are racially/ethnically Black, Latino, and American Indian will be independently (each group) and collectively (BIPOC group) greater than the proportion among people convicted of other class 1 homicides and Colorado's population as a whole.

- H5. There will be significant variation in FM convictions across counties/Judicial Districts, net of population and frequency of violent cases.

- H6. There will be significant variation in the number of FM convictions imposed over the years in which the offense was a class 1 felony, net of population size and violent cases.

The hypotheses were derived with a clear initial reference group in mind: people convicted of class 1 felonies other than FM, including murder after deliberation, extreme indifference murder, killing of an officer or child, and first-degree kidnapping. Owing to the broader aims of reporting a statistical portrait of people convicted of FM, the study protocol outlined increasingly less conservative reference groups.

Focal group:	People Convicted of FM Compared to:			
Comparison group:	Non-FM class 1 felony conviction	Non-FM class 1 felony conviction	Non-class 1 felony conviction	Colorado general population
Data:	Judicial	Corrections	Corrections	Demography
Source:	State Court Administrator's Office	Department of Corrections	Department of Corrections	State Demography Office
Time period:	2000-2021	2023	2023	2020
Expected comparability:	*Most similar*	← ← ← ←	→ → → →	*Least similar*

The Number of People/Cases Sentenced to Life-Without-Parole for Felony murder

Colorado's State Court Administrator's Office (SCAO) makes available systemwide data concerning cases from January 1, 2000 onwards. An open records request for all cases where class 1 felony sentences were imposed between 2000 and 2021 produced a dataset containing 7,953 rows, which were classified as follows:[3]

- First-Degree Kidnapping: 135 rows (1.70%)
    - C.R.S. §§ 18-3-301; 18-3-301; 18-3-301(1)(a); 18-3-301(1)(a),(2); 18-3-301(1)(b),(2); 18-3-301(1)(c); 18-3-301(1)(c),(2)

- First-Degree Murder (non-felony murder): 5,882 rows (73.96%)[4]
    - C.R.S. §§ 18-3-102; 18-3-102(1)(a); 18-3-102(1)(d); 18-3-107; 18-3-102(1)(f)

- Felony murder: 1,936 rows (23.34%)
    - C.R.S. §§18-3-102(1)(b); 18-3-102(1)(b)-18-3-107

The data were aggregated to the case-level. The number of class 1 felony convictions were summed within cases, then distinguished by type of class 1 felony convictions.

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[3] The dataset included a row for each penalty associated with a count of conviction. For example, a single conviction for one count of felony murder would generate individual rows for the sentence, restitution, credit for pretrial incarceration, and other categories. Where a person is convicted under both felony murder and after deliberation theories for a single death, one of those two convictions merges for sentencing purposes. The merged count typically appeared in the dataset as a single row with no associated penalty.

[4] First-degree murder is defined as causing the death of a person "after deliberation and with the intent to cause the death," C.R.S. § 18-3-102(a), causing a death by engaging in certain conduct "[u]nder circumstances evidencing an attitude of universal malice manifesting extreme indifference to the value of human life generally," C.R.S. § 18-3-102(d), or by "knowingly" causing the death of a child under age 12 years of age while "in a position of trust with respect to the victim," C.R.S. § 18-3-102(f). Two additional theories of first-degree murder liability exist (perjury that "procures" the execution of an innocent person, C.R.S. § 18-3-102(c), and causing a death of a minor as a result of drug distribution on school grounds, C.R.S. § 18-3-102(e)), but no convictions under either of these subsections were reported by the SCAO.

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Table 1 provides descriptive information about the frequency of class 1 felony convictions by cases among the class 1 felonies sentenced between 2000 and 2021. Overall, there were 877 cases that involved at least one class 1 felony conviction. Eighty-three percent of these cases entailed a single class 1 felony, while 12 percent involved two class 1 felonies, and the remaining five percent involved three or more. In sum, there were 1,102 convictions for class 1 felonies nested within these 877 cases.

Table 1. Frequency of convictions and cases by type of class 1 felony

F1 Conviction Count	All Types (combined)	Kidnapping (combined)	Non-FM F1 Murder (combined)	Felony Murder (combined)	Felony Murder (single-theory)
1	731	18	577	232	186
2	108	2	70	16	6
3	17	1	15	5	1
4	12	0	0	1	1
5	4	0	1	3	2
6	4	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	1	0	1	0	0
# of Convictions	1102	25	779	298	215
# of Cases	877	21	664	257	196

Note: In this chart, a case is listed under an offense type if a conviction of that offense occurred in the case, regardless of whether other convictions also occurred in the case.

The next three columns disaggregate class 1 felonies by subsections of the C.R.S., namely, kidnapping, non-FM first-degree murder, and FM. Kidnapping composed 2.3 percent of all convictions and was present in 2.4 percent of all cases. Non-FM first-degree murder, in contrast, was the most common, composing 70.7 percent of all convictions and present in 75.7 percent of all cases. To be sure, the percentages in the cases exceed 100 because it was not uncommon for a single case to contain multiple of class 1 felony convictions, including multiple types (i.e., non-FM murder and kidnapping).

The focus of this investigation, FM, composed 27.0 percent of all convictions and was present in 29.3 percent of all cases. However, a particular case could involve convictions for FM and another type of first-degree murder in two distinct situations: (1) multiple first-degree murder theories for a single homicide could be advanced, resulting in convictions under multiple theories, or (2) a person could be convicted of killing more than one person, with one theory applying to one victim and a different theory applying to a second victim. Where multiple theories including FM were proven regarding a single death, this report categorizes that homicide as a non-FM first-degree murder because a first-degree murder conviction would have been achieved even if the FM statute did not exist. There were 66 cases that fell in one of these two groups and which required further review to determine whether they involved single-theory FM convictions. Upon review with a staff attorney from Spero Justice Center, five cases were retained as single-theory FM cases, while 61 were classified as non-FM first-degree murders.

In sum, as reported in the rightmost column of Table, the SCAO dataset contained *196 cases involving at least one single-theory class 1 felony conviction for felony murder*, composing 22 percent of all class 1 felony cases sentenced in Colorado between 2000 and 2021. These cases constitute the focal group of analysis within judicial data and will be compared to 681 cases that are not single-theory FM class 1 felonies.[5]

In the corrections data, the focus is on people presently incarcerated for single-theory FM. CDOC maintains data on its custodial population. Whereas the judicial branch data tracks cases and disaggregates the various sentences, fines, and conditions that are imposed on a single person for a particular conviction, the corrections data is provided on a per-person basis, including the aggregate sentence imposed on each

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[5] Cases where the FM sentences was subsequently set aside or vacated were not removed from this group. There are a number of reasons why a sentence might be vacated by a court, including many that do not bear on whether a FM occurred. Determining whether a FM in fact occurred requires legal interpretation which was beyond the scope of this study. There were five such cases.

individual in custody and the most serious crime of which someone was convicted. The corrections data consists of 17,194 individuals in the custodial population on March 2, 2023.[6]

Importantly, the dataset provided by CDOC neither differentiates between class 1 murder convictions under the various subsections of Colorado's first-degree murder statute nor states whether an individual is serving one or multiple sentences for first-degree murder. There are 1,570 people listed as having been convicted of first-degree murder. The dataset did not state whether those convictions were for after-deliberation murder, extreme indifference murder, FM, or another theory. However, it was possible to determine if someone was convicted of first-degree kidnapping and there were 67 instances recorded in the data.

Judicial and corrections data were merged to permit person-level (rather than case-level) analysis. Of the 877 class 1 felony cases reported by SCAO, it was determined that 17 involved the individuals with multiple cases (e.g., a person committed multiple class 1 felonies in different jurisdictions or at different times, resulting in multiple cases) and 84 cases pertained to individuals who had been paroled, had deceased, or were in custody outside of Colorado.[7]

With these considerations in mind, was determined that there _are 176 people presently in custody who had a FM conviction_ recorded in the SCAO data and who could be matched to an individual listed in the CDOC dataset, including 16 individuals who were convicted as juveniles.[8] This represents 1.0% of the total custodial population in Colorado and 11% of the total custodial population convicted of (per SCAO categorization) or listed as (per CDOC categorization) committing a class 1 felony. In addition, there was one individual who was convicted of single-theory FM and who, based on individual court records, could be identified as serving his sentence in another state. It is important to note that, because SCAO reported individuals convicted of FM who were sentenced from 2000 onwards, there are likely other individuals who were convicted and sentenced for single-theory FM before 2000 and who remain in CDOC custody.

Now that the estimates of the number of FM and non-FM class 1 felonies cases and convictions have been established, the characteristics of these people and cases is the subject of the next section. But before turning to these characteristics, it is important to emphasize that this study analyzes the characteristics of two FM groups: (1) the 196 cases involving single-theory FM convictions that resulted in sentences between 2000-2021 in the data reported by SCAO, and (2) the 176 people currently in CDOC custody who received at least one single-theory FM sentence imposed between 2000-2021.

The Characteristics of People/Cases Convicted of Felony Murder

Table 2 provides a breakdown of the descriptive characteristics of class 1 felony cases in judicial (SCAO) records, partitioned between the 196 FM cases and 681 non-FM cases. The mean age of people at the time of offense was 30.5 years, though this varied considerably (standard deviation = 11.3 years), ranging from 14.6 years to 71.1 years. Forty-five percent of cases involved individuals 25 years or younger at the time of the offense, while 6.6 percent were juveniles. Ninety-five percent of cases involved males. White people constituted the largest racial/ethnic groups in the dataset, followed by Black (30 percent) and Hispanic (10 percent) people.[9] The year in which a case was sentenced ranged from 2000 to 2021. The mean year in which the offense occurred predated the sentencing date by nearly five years; 97.3% of all offenses occurred within the period when FM was classified as a class 1 felony and punished with LWOP, while just 24 of the 877 cases involved crimes that occurred before 1990 but did not result in a conviction until sometime between 2000-2021.

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[6] Per CDOC, this data includes individuals in Colorado custody who are serving sentences imposed by other states and does not include individuals serving Colorado sentences in other states.

[7] 19 of these individuals did not appear in the CDOC dataset, could not be found on the CDOC online offender locator, and could not be identified by Spero Justice Center attorneys as serving sentences out of state. Of those, two were convicted of single-theory FM, but one for an offense which occurred in 1977 and therefore resulted in a life-with-the-possibility-of-parole-after-20-years sentence. There is no indication that the other individual was moved out of state and, therefore, Spero Justice Attorneys surmised that he is likely deceased. In addition, after consulting court dockets and news reports, Spero Justice Center attorneys were unable to determine the subsection of the first-degree murder statute that one individual was convicted under.

[8] For these 176 individuals, the offenses listed under the "Most Serious Crime" column in the CDOC dataset were first-degree murder (172 cases, or 97.7%), second-degree murder (2 cases, or 1.1%), manslaughter (1 case, 0.6%), and possession (1 case, 0.6%).

[9] However, there were a number of individuals who were classified as White in SCAO data and Hispanic in CDOC data. Based on the inspection of names, it appears that the correctional records better reflect race/ethnicity than judicial records.

Table 2. Comparing class 1 felony cases by non-felony murder and felony murder convictions, per judicial records

	All Cases (N=877)		Non-Felony Murder (N=681)		Felony Murder (N=196)		
	Freq.	Mean/% (SD)	Freq.	Mean/% (SD)	Freq.	Mean/% (SD)	*p*-value
Age at Offense							
Age in Years	874	30.5 (11.3)	681	31.0 (11.3)	196	28.8 (10.9)	0.016*
Under Age 26	392	44.6%	289	42.4%	103	52.6%	0.012*
Gender							
Female	46	5.2%	39	5.7%	7	3.6%	0.233
Race/Ethnicity							
Asian	8	0.9%	8	1.2%	0	0.0%	0.127
Black	260	29.8%	192	28.4%	68	34.7%	0.088[#]
Hispanic	90	10.3%	65	9.6%	25	12.7%	0.201
White	498	57.0%	401	59.2%	97	49.5%	0.015*
Other	17	1.9%	11	1.6%	6	3.1%	0.200
Young-POC-male	204	23.3%	143	21.0%	61	31.1%	0.003*
Sentencing							
Year Offense	876	2007.7 (8.7)	674	2007.8 (8.8)	202	2007.4 (8.3)	0.656
Year Sentenced	877	2012.3 (6.7)	675	2012.3 (6.7)	202	2012.4 (6.7)	0.983
Judicial District							
1	94	10.7%	70	10.3%	24	12.2%	0.434
2	198	22.6%	141	20.7%	57	29.1%	0.013*
3	5	0.6%	5	0.7%	0	0.0%	0.229
4	151	17.2%	122	17.9%	29	14.8%	0.309
5	13	1.5%	11	1.6%	2	1.0%	0.544
6	6	0.7%	4	0.6%	2	1.0%	0.517
7	1	0.1%	1	0.1%	0	0.0%	0.592
8	24	2.7%	18	2.6%	6	3.1%	0.752
9	5	0.6%	5	0.7%	0	0.0%	0.229
10	39	4.4%	27	4.0%	12	6.1%	0.197
11	12	1.4%	7	1.0%	5	2.6%	0.106
12	5	0.6%	5	0.7%	0	0.0%	0.229
13	7	0.8%	6	0.9%	1	0.5%	0.608
14	3	0.3%	3	0.4%	0	0.0%	0.353
15	0	0.0%	0	0.0%	0	0.0%	n/a
16	3	0.3%	3	0.4%	0	0.0%	0.353
17	103	11.7%	89	13.1%	14	7.1%	0.023*
18	130	14.8%	106	15.6%	24	12.2%	0.249
19	35	4.0%	24	3.5%	11	5.6%	0.189
20	18	2.1%	16	2.3%	2	1.0%	0.248
21	23	2.6%	16	2.3%	7	3.6%	0.346
22	2	0.2%	2	0.3%	0	0.0%	0.448

Note: Bivariable ordinary least squares models regressing a dichotomous measure of felony murder on the associated variable in a given row. Freq. = frequency; (SD) = standard deviation; *p<.05 indicates statistical difference between FM and non-FM cases.

There was considerable variation in the number of cases across judicial districts, reflecting differences in population size and the frequency of class 1 felony crime (i.e., perpetration, arrest, filing, and conviction). Over three-fourths of the class 1 felony convictions occurred in five judicial districts: 2 (Denver), 4 (primarily Colorado Springs), 18 (primarily Aurora), 17 (northwest and northeast suburbs of Denver), and 1 (western suburbs of Denver). These districts, however, account for 64% of the adult population share of Colorado.
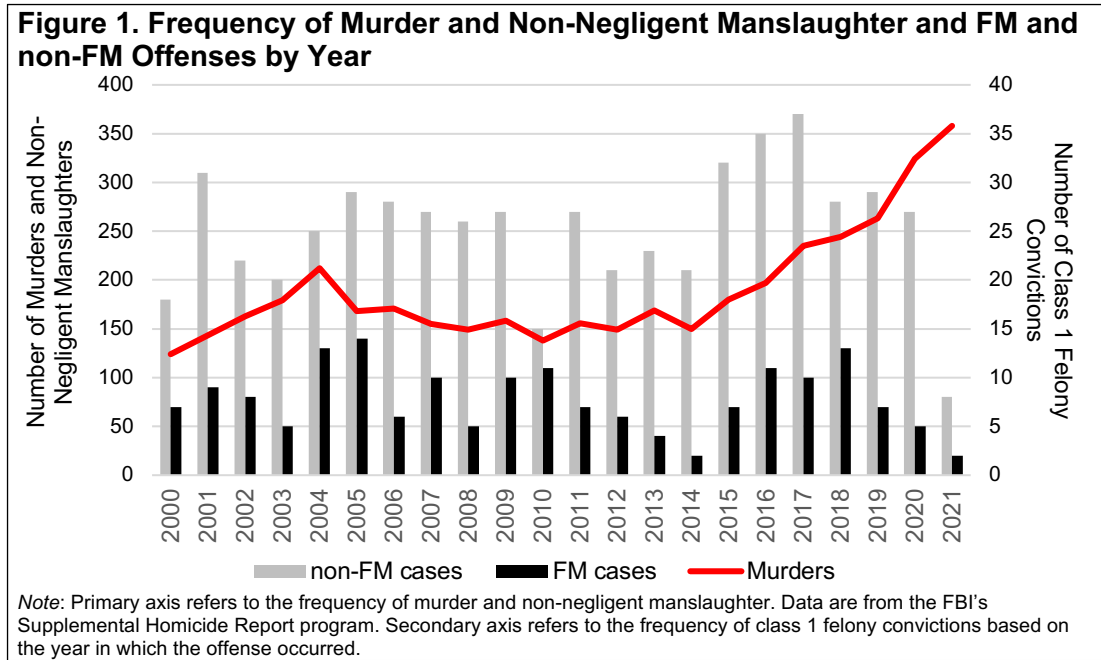
The remaining columns provide descriptive statistics for class 1 felonies partitioned by non-FM and FM cases. In general, the statistical profile of cases with single-theory FM convictions differs from the profile of non-FM cases. People convicted of FM are about two years younger at the time when the offense occurred; over half of FM cases involved people under age 26, 53% compared to 43% of non-FM cases. Moreover, 10%

of FM cases involved juveniles, compared to 5.5% of non-FM cases. Contrary to expectations, there were no differences by gender. It is worth noting just how few girls and women were convicted of class 1 felonies in the first place—only 5% of all cases.

There were racial/ethnic differences, which is consistent with expectations. FM cases were more likely to include Black people than non-FM cases; 35% compared to 28%, respectively. Whereas White people were the majority of non-FM cases, 59%, they were the plurality of FM cases, 49.5%. The remaining race/ethnicity differences were statistically null. When interacting age-gender-race/ethnicity, there was an 10-percentage point difference between FM and non-FM cases, suggesting that FM cases disproportionately involve young (< 26 years) males and racial/ethnic minorities.

FM and non-FM cases presented indistinguishable profiles in when the offense occurred or when the case resolved with sentencing. Figure 1 provides evidence of the lack of a temporal trend in class 1 felony cases, where counts of murder and non-negligent manslaughter are contrasted against counts of FM and non-FM cases by year. FM cases ebb and flow across years, both in frequency in occurrence and proportion of class 1 felony cases. There are eight years where FM cases eclipsed 10 (2004-05, 2007, 2009-10, 2016-18) and six years where there were five or fewer (2003, 2008, 2013-14, 2020-21), as of the date SCAO provided its dataset.

Figure 1. Frequency of Murder and Non-Negligent Manslaughter and FM and non-FM Offenses by Year

Note: Primary axis refers to the frequency of murder and non-negligent manslaughter. Data are from the FBI's Supplemental Homicide Report program. Secondary axis refers to the frequency of class 1 felony convictions based on the year in which the offense occurred.

It is worth nothing that class 1 felony convictions for offenses committed in 2019, 2020, and 2021 may diverge from the FBI-published murder data because at the time of the writing of this report, many cases have yet to reach a verdict.

But there is evidence to suggest that some judicial districts maintained a greater or lesser proportion of FM cases. For example, FM cases were overrepresented in the 2nd judicial district, which accounted for 21 percent of non-FM cases, but 29 percent of FM cases. In contrast, FM cases were underrepresented in the 17th judicial district, which accounted for 13 percent of non-FM cases, but 7 percent of FM cases.

Table 3 shifts the focus to the population of people presently incarcerated in the Colorado Department of Corrections. There were 176 people sentenced for a single-theory FM conviction according to judicial data from 2000-2021 who could be matched to individuals in custody and compared to (1) people listed in correctional records as having a class 1 felony conviction as their most serious offense (*N*=1,470), (2) people listed in correctional records as having been convicted of a non-class 1 felony as their most serious offense (*N*=15,548), and (3) the adult population of the State of Colorado. Comparisons are made in that order, from the most to least comparable groups. It does bear repeating that FM cases in correctional records are generally similar to judicial records, with the exception of race/ethnicity, as there is a larger composition of Hispanic and smaller composition of White people.

As expected, the class 1 felony population is more similar to the FM population than other comparative groups. Unlike the findings from the judicial data, the correctional data reveal fewer demographic disparities. For example, there is a one-year difference in age between the FM and non-FM groups, which was statistically null and substantively negligible, while the composition of the population under age 26 was just over seven percentage points different. The race/ethnicity disparities also narrowed, though Black people were still more likely, and White people less likely, to be convicted of FM than another class 1 felony. And the interaction between age, race/ethnicity, and gender no longer differentiated FM and non-FM cases.

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Table 3. Comparing custodial populations by felony murder, class 1 non-felony murder, and non-class 1 felony, and State of Colorado population demographics

	Felony Murder (N=176)		Class 1 Felony (N=1470)		Non-Class 1 Felony (N=15,548)		Adults in Colorado
	Mean / % (SD)		Mean / % (SD)	p-value	Mean / % (SD)	p-value	Mean / %
Age at Offense							
Age in Years	28.6 (10.4)		29.6 (10.2)	0.190	33.2 (10.4)	0.000*	46.8
Under Age 26	52.8%		45.7%	0.073#	27.9%	0.000*	14.10%
Gender							
Female	4.0%		5.6%	0.375	8.6%	0.028*	50.2%
Race/Ethnicity							
Asian	0.6%		1.4%	0.348	1.0%	0.537	3.9%
Black	34.7%		28.4%	0.082#	16.6%	0.000*	4.4%
Hispanic	28.4%		28.7%	0.934	30.7%	0.515	19.4%
White	33.0%		39.4%	0.098#	47.5%	0.000*	71.6%
Other	3.4%		2.1%	0.272	4.2%	0.616	0.8%
Young-POC-Male	36.4%		31.6%	0.204	16.4%	0.000*	2.9%
Sentencing							
Year Offense	2008.2 (7.7)		2006.3 (11.3)	0.026*	2015.8 (6.530)	0.000*	
Judicial District							
1	13.1%		10.7%	0.353	9.4%	0.103	10.2%
2	29.5%		22.1%	0.027*	17.3%	0.000*	12.4%
3	0.0%		0.5%	0.327	0.5%	0.356	0.4%
4	15.3%		16.4%	0.721	18.2%	0.334	13.1%
5	1.1%		1.1%	0.954	1.3%	0.838	1.8%
6	1.1%		0.3%	0.125	1.0%	0.902	1.2%
7	0.0%		0.2%	0.549	1.0%	0.193	1.8%
8	3.4%		2.4%	0.408	5.1%	0.310	6.2%
9	0.0%		0.5%	0.359	0.9%	0.214	1.5%
10	5.7%		2.9%	0.050#	4.3%	0.386	2.9%
11	2.3%		0.9%	0.085#	1.6%	0.492	1.6%
12	0.0%		0.7%	0.250	1.0%	0.192	0.8%
13	0.6%		0.9%	0.666	1.3%	0.373	1.4%
14	0.0%		0.7%	0.250	0.7%	0.267	0.9%
15	0.0%		0.3%	0.489	0.4%	0.405	0.3%
16	0.0%		0.3%	0.439	0.6%	0.286	0.5%
17	7.4%		11.4%	0.111	8.7%	0.547	10.3%
18	10.8%		17.1%	0.032*	12.1%	0.588	18.1%
19	4.5%		3.9%	0.667	5.2%	0.696	5.7%
20	1.1%		2.0%	0.441	3.1%	0.130	5.7%
21	4.0%		2.8%	0.376	5.2%	0.466	2.7%
22	0.0%		0.2%	0.549	0.4%	0.328	0.5%

Note: Data from State Demography Office (https://demography.dola.colorado.gov/assets/html/state.html) was used to generate information on adults in Colorado in 2020. Bivariable ordinary least squares models regressing a dichotomous measure of felony murder on the associated variable in a given row. Freq. = frequency; (SD) = standard deviation; *$p<.05$, #$p<.10$ indicates statistical difference between FM and non-FM cases.

The offenses of people convicted of single-theory FM occurred more recently than class 1 felony cases, a difference of about two years. This likely reflects a longer observation period for people convicted of class 1 felonies, as FM cases were matched only to people sentenced in the judicial records between 2000 and 2021, whereas class 1 felonies could have occurred and been adjudicated prior to the turn of the century. There was disproportionality in FM cases across judicial districts, a finding consistent with the judicial data. The 2nd judicial district was again overrepresented, composing 30% of all single-theory FM cases yet only 22% of class 1 felonies. The 10th and 11th judicial districts were also overrepresented, though they constituted a small share of FM and class 1 felony cases. The 18th judicial district was underrepresented; it accounted for 17% of class 1 non-FM felony incarcerations yet only 11% of the FM incarcerations.

The next comparison group is the non-class 1 felony population, which includes every individual with zero class 1 felony convictions in CDOC custody as of March, 2023. They constitute the bulk of the custodial population, about 90%. This population committed their most serious crime at older ages than the FM population, on average (33 years versus 30 years). Whereas over half of those convicted of FM committed their crime under the age of 26, just 28% of the non-class 1 felony population did so. The demographic disparities extend to gender and race, too. A greater share of non-class 1 felony cases includes women (9% versus 4%) and White people (48% versus 33%). Only 16% of the non-class 1 felony population was young-male-minority, whereas 36% of the FM population met those criteria. The non-class 1 felony population committed offenses much more recently than the FM population, which was expected owing to stark differences in penalties for class 1 versus non-class 1 offenses. The 2nd judicial district stood out yet again because it accounted for 30% of FM cases but only 17% of non-class 1 felony cases.

The adult population of Colorado constitutes the final comparison group. As the least conservative comparison group, the starkest disparities were expected for reasons concerning criminal justice priorities, legislative policy, socioeconomic influences, historical legacies, and differences in human behavior. Still, it is worthwhile to consider how distinguishable the FM-convicted population is relative to the adult population in Colorado. Adults in Colorado tend to be much older than the ages when people committed FM; just 14% of the adult population is between ages 18 and 25, compared to 53% of the FM population at the time of their offenses. Whereas half of the state is female, just 4% of the FM population is female. The racial/ethnic disparities are another stark difference. The Black population is especially overrepresented in the FM population (35%) vis-à-vis Colorado (4%). Moreover, just 4% of the adult population is young, male, and minority, compared to 37% of the FM population.

Some judicial districts send a much larger proportion of people to prison than others, including for FM. For example, the 2nd judicial district accounts for 12% of the adult population in Colorado, yet accounts for 17% of the non-class 1 felony incarcerations, 22% of class 1 felony incarcerations, and 30% of FM incarcerations. The 1st and 4th judicial districts also have a larger share of all three types of incarceration than their population share. In contrast, the 17th and 18th are both underrepresented in their share of FM cases as well as non-class 1 felony cases. Of course, comparisons are being made based on 2020 demographic data, which do not reflect population growth and mobility, as well as the fact that most offenses and convictions occurred years ago.

Thus far, the results suggest that the people and cases involving FM are distinguishable from that of people and cases involving other offenses the State of Colorado considers the most serious (class 1 felonies), as well as offenses that warrant incarceration (non-class 1 felonies). These differences are most consistent in terms of race, particularly for Black people, and to a lesser extent age, particularly for younger people. It is apparent that some judicial districts rely on FM prosecution more or less regularly than others, though this could reflect types of cases unique to the judicial district. Now that characteristics of people and cases convicted of FM have been described, it is important to ensure that these disparities are not a mere reflection of joint influences. For example, it may be that age matters much more than race as a source of FM disparities, where relying only on bivariable associations could lead to erroneous conclusions. This is why it is important to move into a multivariable context that considers simultaneous influences.

Demographic, Geographic, and Temporal Disparities in Felony murder Cases

Table 4 contains the results from a series of multivariable logistic regression models. The logistic model is ideal when there is a binary, or dichotomous, dependent variable, which in this case would be whether a case/person involved a conviction for FM or not. The aim of this analytic approach is to identify the factors that elevate or lower the probability of a case/person being recorded as having been convicted of FM. The log odds of FM is modeled as a linear combination of the independent, or predictor, variables, which can be interpreted as odds ratios upon exponentiating, or the ratio of the probability of FM over non-FM. Base rates, or the proportion of FM cases/persons for the sample being analyzed, are important to consider. FM base rates differs for the three models—0.22 (judicial), 0.11 (class 1 felony), and 0.011 (non-class 1 felony)—because the denominator changes.

Starting with the judicial data, the predictors that distinguish single-theory FM cases from non-FM cases are age, Black race, and convictions from the 17th and 18th judicial districts. For each one-unit increase in age, the likelihood of a FM conviction declines by 1.5%. The relationships can also be expressed in terms of

Table 4. Multivariable logistic regression models predicting felony murder convictions

Data Source	Judicial			Corrections			Corrections		
Focal Category (=1)	Felony murder (N=196)			Felony murder (N=176)			Felony murder (N=176)		
Comparison Category (=0)	Class 1 Felony, Non-Felony murder (N=681)[a]			Class 1 Felony, Non-Felony Murder (N=1,470)			Non-Class 1 Felony (N=15,548)		
	Odds Ratio	b (se)		Odds Ratio	b (se)		Odds Ratio	b (se)	
Age at Offense									
Age in Years [b]	0.984	-0.016 (0.008)	#	0.987	-0.013 (0.009)		0.963	-0.038 (0.009)	*
Gender									
Male	1.406	0.341 (0.427)		1.344	0.296 (0.408)		1.395	0.333 (0.392)	
Race/Ethnicity									
Black	1.430	0.358 (0.200)	#	1.426	0.355 (0.212)	#	2.290	0.828 (0.200)	*
Hispanic	1.437	0.363 (0.271)		1.026	0.026 (0.211)		1.170	0.157 (0.200)	
Other	1.005	0.005 (0.480)		1.146	0.136 (0.433)		1.050	0.048 (0.406)	
Sentencing									
Year Offense [b]				1.021	0.021 (0.008)	*	0.919	-0.084 (0.007)	*
Year Sentenced [b]	1.003	0.003 (0.012)							
Judicial District									
1	1.065	0.063 (0.292)		1.037	0.036 (0.279)		1.924	0.654 (0.266)	*
2	1.026	0.026 (0.249)		1.091	0.087 (0.236)		1.621	0.483 (0.223)	*
4	0.674	-0.395 (0.274)		0.742	-0.298 (0.269)		1.068	0.066 (0.256)	
17	0.479	-0.735 (0.335)	*	0.575	-0.554 (0.335)	#	1.159	0.148 (0.323)	
18	0.592	-0.524 (0.297)	#	0.472	-0.751 (0.301)	*	0.882	-0.126 (0.288)	
Intercept		-1.538 (0.441)	*		-2.375 (0.422)	*		-5.577 (0.411)	*

Note: The reference groups are as follow: female (male), White (Black, Hispanic, and Other), and the judicial districts of 3, 5-16, and 19-22 (JDs 1, 2, 4, 17, and 18). Race/ethnicity "Other" includes Asian, American Indian, Pacific Islander, and other groups that are not White, Black, or Hispanic. [a] Four cases with missing demographic information were assigned to the "other" race/ethnic category [b] Mean-centered. b = unstandardized coefficient. (se) = standard error. *p<.05, #p<.10 indicates statistically significant association with the outcome.

predicted probabilities. Holding all other independent variables at their mean value, the probability of FM is .22 at age 30.5 years, the mean age for class 1 felony cases in the judicial data. At one standard deviation below (about age 19 years) and above (about age 42 years) the mean, the probability of a FM conviction is .25 and .19, respectively. The differences by race were starker. The odds ratio indicates that Black people had 1.43 greater likelihood of an FM conviction than White people. The probability of an FM conviction for Black people, holding all other variables at their mean value, was .27, whereas for White people the probability was .21. FM cases were about half as likely in the 17th and 18th judicial districts as the seventeen other districts to which they were compared, probabilities of .13 and .16, respectively (relative to about .24). While Hispanic and other race/ethnicity, as well as male and temporal trends, as measured by the year in which the offense occurred, were all positive, none were statistically significant.

Turning to the corrections data, the predictors that distinguish people incarcerated for at least one single-theory FM conviction from those serving sentences for non-FM class 1 felonies are Black race, year in which the offense occurred, and connection to the 17th and 18th judicial districts. Black people were about 43 percent more likely to be incarcerated for FM offenses than White people; the probability of FM offense was .13 for Black people and .10 for White people. As noted in the prior section, people convicted of FM offenses committed these crimes more recently than people convicted of other class 1 felonies. People from the 17th and 18th judicial districts were about half as likely to be incarcerated for FM offenses than those in the comparison judicial districts.

The final comparisons are made between people incarcerated for at least one single-theory FM offense and those incarcerated for non-class 1 felonies. Age, Black race, year of offense, and judicial district distinguished these two groups. Each additional year of age at the time of the offense was associated with a

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3.7% reduction in the likelihood of FM incarceration. Relative to White people, Black people were 2.3 times as likely to be incarcerated in Colorado for FM than non-class 1 felonies. The 1st and 2nd judicial districts also maintained a greater share of FM incarcerations than non-class 1 felony incarcerations than comparison judicial districts. It is important to consider that the base rate of FM incarcerations is .011, rendering the effect sizes as expressed in percentage point changes in the predicted probabilities modest. For example, the probability of FM incarceration for Black people is .02, compared to .009 for White people.

Supplemental analyses were undertaken using a dichotomous measure of age under age 26 years at the time of offense and an interaction measure of youth (< age 26 years), male, and person of color. There was consistent evidence, across all three comparisons made in Table 4, that people between ages 18 and 25 were more likely to be convicted of FM than people over age 25—an odds ratio of 1.38 (p=.055) in the judicial data and 1.34 (p=.075) in the correctional data. There was mixed evidence in terms of the interaction. In the judicial data, young-male-minorities were about 75% more likely to be convicted of FM than other class 1 felonies (p=.004), yet that association was statistically null in the correctional data (odds ratio=1.26, p=.177).

Conclusion

The purpose of this study was to paint a statistical portrait of people who have been convicted of FM in Colorado between 1990 and 2021, a 32-year period in which the punishment for such offenses was life-without-parole. Ultimately, given limitations in the aggregate data provided by SCAO, the analysis focuses on the 21 years from 2000 to 2021. FM was reclassified as a class 2 felony effective September 15, 2021, after Governor Jared Polis signed Senate Bill 124 on April 26, 2021, providing for a criminal sentence of 16-48 years of incarceration. Questions remained concerning the people who had been convicted of FM and would spend the balance of their lives in prison, including the scale of FM prosecution prior to 2021 and how different or similar this population was relative to people convicted of other imprisonable offenses and the general population of the state of Colorado. These questions were the subject of this study, and after a series of analyses of correctional and judicial data, two main conclusions have been reached.

First, a large number of people have been convicted of FM in Colorado. There are at least currently 176 people who were sentenced for FM who are presently incarcerated in Colorado, constituting 1.0% of the custodial population, though this number includes 16 juveniles serving less-than-LWOP sentences and 5 individuals who subsequently had their FM convictions vacated or set aside. This estimate is conservative because it only includes cases sentenced between 2000 and 2021. All cases prosecuted and sentenced in the 1990s—a much more violent period than the 2000s and 2010s—eluded this estimate because they were not captured in the aggregate data provided by SCAO and because the available CDOC data do not differentiate between subsections of first-degree murder.[10] In other words, there is an even larger population of people who have been convicted of FM who remain in CDOC custody. It bears mention that others are no longer in CDOC custody due to exoneration, resentencing, or death. Moreover, all first-degree murders that included FM as one of multiple theories of death were not classified as FM convictions for the purposes of this study. Finally, while there are 176 individuals who were sentenced between 2000 and 2021 for single-theory FM in the current Colorado prison population, it is important to note that some would not have been eligible for release sooner had Senate Bill 124 applied retroactively. A number of these individuals have other sentences, including sentences for other class 1 felonies, that also impact their release eligibility.

Second, the population of people with FM convictions appears to be a distinctive class. This is most apparent when comparing FM cases to the population demographics of the state of Colorado. But that is not the ideal comparison owing to demographic, public policy, and socioeconomic factors that generate disparities in behavior and punishment. Yet when comparing the characteristics of FM cases to the offenses considered substantively close enough to warrant equal punishment, that is, class 1 felonies that carry a life-without-parole criminal sentence, it was also apparent that there were differences. Consistent with hypotheses 1 and 2, at the time of offense people convicted of FM were younger than people convicted of other class 1 felonies. Inconsistent with hypothesis 3, women were no more likely than men to be convicted of FM than other class 1 felonies, and while not statistically significant, trended in the opposite direction. There was mixed support for hypothesis 4, as the only racial and ethnic differences were observed for Black people, a population that was regularly overrepresented among the people and cases with single-theory FM convictions. Consistent with

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[10] The Spero Justice Center was informed by the SCAO in response to a records request that bulk datasets may be obtained that include information from January 1, 2000 onwards.

hypothesis 5, there was significant variation across districts in the use of FM. Whereas the higher concentration of FM cases in the 2nd judicial district was explained away by their profile of case characteristics, such as age and race, the 17th and 18th judicial districts were underrepresented net of case characteristics. Finally, there was negligible evidence to support the sixth hypothesis, though it bears mention that it was only possible to examine temporal trends between 2000 and 2021.

In conclusion, the results of this study aid in uncovering a unique population of people prosecuted and convicted in Colorado. The population is unique in that they were subject to the most extreme punishment currently available in Colorado—life-without-parole—over a period of 32 years before the state decided to reclassify the crime. The population of people convicted of FM is a small minority of the custodial population, but comparable in proportion to people convicted of identity theft or first-degree burglary. The population is also unique in that it is disproportionately composed of young and Black people.