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EXECUTIVE SUMMARY

The Federal Bureau of Prisons (BOP) provides evidence-based recidivism reduction programs for inmates incarcerated at BOP facilities. The BOP's cognitive-behavioral Anger Management intervention is one such program intended to reduce anger and violence. A contracted evaluation of the Anger Management program's effectiveness is described and presented throughout this report. In addition to program effects, this report reviews inmate-level characteristics related to Anger Management program completion.

Pre-existing data collected by the BOP on inmates who began Anger Management classes between March 2014 through December 2018 were used to assess the effect of the Anger Management curriculum on infractions, rearrests, and reincarcerations. Complementing these data, this report also provides a review of qualitative interviews collected between 2023-2024 from inmate participants and program staff. Inmates and staff from nine facilities provided their feedback on the Anger Management curriculum—focusing specifically on program strengths and areas of improvement. All data reported below involve inmates held in federal correctional facilities operated by the BOP, or staff working at these facilities and employed by the BOP.

Key Findings

Program participant characteristics:

- Between 2014-2018, there were 11,882 people who enrolled in the Anger Management program for the first time across 109 facilities.
- Most inmates who enrolled in the Anger Management program were between 30 and 39 years old (39.4%), male (85.9%), White (50.2%), and non-Hispanic (78.1%).

Program participation and completion:

- Overall, 8,126 (68.3%) completed the program, 913 (7.7%) were expelled, 1,190 (10.0%) were incomplete (did not complete the program but did not withdraw and were not expelled), and 1,242 (10.5%) had withdrawn from the program.
- The average number of hours participants spent in the Anger Management programming was 7.73 hours (*SD* = 4.72).

- Completion of Anger Management was most likely to occur for those above 40 years old (75.2%-77.8%), females (76%), Asians (75%), and Hispanics (75%).
- People with a sentencing offense for drugs, fraud/bribery, sex offenses, and/or miscellaneous offenses all had completion rates of at least 75%.
- Federal Prison Camps, Federal Detention Centers, and Low-Security Federal Correctional Institutions had the highest completion rates at 87%, 78%, and 77%, respectively.
- People with a Level 1 mental health status (i.e., those with the lowest level of mental health problems) had the highest completion rate (72%), with participants classified at a higher level (Levels 2, 3, and 4) having relatively lower completion rates (62%-63%).

Impact on infractions:

- There was little change in the average number of infractions from before Anger Management program enrollment to post-Anger Management program completion. Program completers were less likely to have had any pre-program infractions or post-program infractions when compared with non-completers, and participants who completed more than 6 hours of the program were more likely than those with fewer hours to have no pre- or post-program infractions.
- When comparing groups (completers vs. non-completers; more than 6 hours vs. 6 or fewer hours) and controlling for the number of infractions before program participation, the impact of the program on post-program infractions was small.
- Other factors associated with fewer infractions included race, age group, mental health status, security level, and certain types of sentence offenses. For example, older inmates, inmates with a Level 1 mental health status, and inmates in lower security facilities had fewer infractions than did their counterparts. Additionally, those with a drug offense, sex offense, counterfeit/embezzlement, and/or fraud/bribery offense had fewer infractions than inmates who did not have those sentencing offenses, whereas inmates with sentence offenses for robbery, miscellaneous, and court/corrections had more infractions than inmates without those sentence offenses.

Impact on post-release arrests:

- At 12-, 24-, and 36-months after release from a BOP prison, individuals who completed the Anger Management program were rearrested at a lower rate than those who were listed as expelled or withdrawn.
- Individuals who had withdrawn from the program were rearrested across 12-, 24-, and 36-months after release at a lower rate than those who were expelled.
- Individuals who completed the program had a median time to rearrest after release of approximately 1 year and 1 month. Individuals who did not complete the program had a median time to rearrest of approximately 11 months.

Impact on reincarceration:

- At 12-, 24-, and 36-months after release, those who completed the Anger Management program were reincarnated at relatively lower rates than were those listed as expelled and withdrawn.
- Individuals who were expelled from the program had the highest rates of reincarcerations at 12-, 24-, and 36-months after release.
- Across all security levels (low, medium, high, administrative), those who did not complete the Anger Management program had a fewer number of days, on average, to first reincarceration when compared to those who completed the program.
- Inmates who were in the completed group had a median time to reincarceration of approximately 1 year and 8 months. This was longer when compared to the non-completion group, including people listed as expelled, incomplete, or withdrawn, which had a median time to reincarceration of approximately 1 year and 5 months.

Focus group feedback:

- Focus groups and interviews were conducted with Anger Management participants and former participants, and staff in nine different BOP facilities between November 2023 and June 2024. A total of nine staff members and 45 inmates participated in the focus groups.
- All participants were volunteers and signed Informed Consent documents approved by the Bureau of Prisons Research Review Board (BRRB). Handwritten notes on the discussions were recorded throughout the interviews.

- Overall, Anger Management staff and participants reported high levels of satisfaction with the Anger Management program and strongly believed the program was helpful. Strengths included the tools they learned in the program including Rational Self-Analysis, the Anger Iceberg, Anger Thermometer, Criminal Thinking Errors and the ABC's of anger (anger, belief, consequences) and group activities including role playing and experiential activities.
- Staff and inmates listed several areas that could be improved, such as the need for more resources (including staffing and classroom space), access to Anger Management earlier in the sentence, shorter wait-list time, and fewer disruptions during programming.

INTRODUCTION AND BACKGROUND

Public Health research shows that anger resulting in violence inflicts a major burden on the well-being of U.S. citizens (Novaco, 2020). As such, the National Office of Behavioral and Social Sciences Research (OBSSR) supports scientific research designed to increase our understanding of public health interventions targeting violence and their downstream consequences (e.g., trauma, injuries, and mortality). The current report is aligned with this initiative serving as the first empirical evaluation of the BOP's anger management curriculum.

Need to Evaluate the Anger Management Curriculum

Under the First Step Act (FSA) of 2018 (First Step Act of 2018, 2018), the BOP was instructed to use a valid and reliable risk assessment instrument to assess all federal prisoners' recidivism risk and *place individuals in evidence-based programs and productive activities to reduce this risk*. Individuals who complete Evidence-Based Recidivism Reduction (EBRR) programs can earn additional time credits that enable them to step down supervision status (e.g., home confinement; James, 2019). The Anger Management curriculum is one such EBRR that is provided to inmates in BOP facilities that has been noted as a program in need of research evaluating its short- and long-term effects.

Prior to 2019, the BOP relied on the Anger Management curriculum developed by the Substance Abuse and Mental Health Services Administration (SAMHSA; Reilly, Shropshire, Durazzo, & Campbell, 2002). The SAMSHA Anger Management curriculum was developed to serve individuals with substance use and mental health disorders. Additionally, this program was designed to help individuals recognize, understand, and manage their anger effectively. The standard SAMHSA curriculum consists of 12, 60-minute sessions including the following components:

- Overview of anger
- Anger Control Plans
- Cognitive Restructuring
- Assertive Training
- Anger and Substance

- Events & Cues
- The Aggression Cycle
- Conflict Resolution
- Anger and the family
- Review and Graduation

In 2021, the BOP transitioned to using a curriculum developed by the Change Companies (The Change Companies, 2021). The Change Companies' curriculum combines cognitive-behavioral therapy (CBT) with mindfulness techniques to help participants increase self-awareness and emotional regulation. It was designed for a broader audience, including court-mandated courses and interventions for justice-involved individuals.

Overall, while both programs incorporate CBT-based techniques, SAMHSA's is more focused on clinical applications within the context of substance use and mental health whereas the Change Companies' manual is geared towards a wider range of settings including justice services and individualized treatment plans. The current report provides a summary of quantitative data used to assess the program effects of Anger Management when the SAMHSA curriculum was in place, while the qualitative interviews address the strengths and weakness when the Change Companies curriculum was in place. This mixed-method approach was taken to allow for recidivism outcomes to be examined using the quantitative data, and to gather perceptions of the newly implemented Change Companies curriculum for which recidivism outcomes were not available at the time of this report.

EVALUATION STUDY AIMS AND RESEARCH QUESTIONS

Overview of Evaluation Approach

The primary aim of this evaluation study is to examine the effectiveness of BOP's Anger Management program. More specifically, this research examines the BOP's cognitive-behavioral Anger Management intervention for anger and violence reduction (Reilly et al., 2002). Since cognitive-behavioral treatment has been identified as an effective approach to reducing recidivism for justice-involved individuals (e.g., Andrews et al., 1990; Landenberger & Lipsey, 2005;

Pearson, Lipton, Cleland, & Yee, 2002), this study builds upon prior research while also addressing the need to evaluate the program as indicated in the First Step Act of 2018.

The analyses described below focus on assessing the associated impact that the Anger Management program had on long-term, post-release public safety outcomes, as well as on identifying participant-level factors associated with participation in the Anger Management program. This overall evaluation strategy used two major phases:

1) Archival data for inmates starting Anger Management programs between March, 2014 and December, 2018

2) Qualitative data collected from nine Federal facilities across six regions of the U.S. representing varying security levels (Camps, Medical Facilities, Low, Medium, and High).

Program evaluations like this one have the potential to serve as an important tool for informed decision-making concerning the efficient allocation of resources, treatment efficacy, and accountability to stakeholders.

Research Questions

Using BOP data and focus group feedback, analyses were conducted to address the following research questions:

1) What is the impact of BOP Anger Management program participation on inmates? Is the Anger Management program associated with reductions in violence and aggression in the short-term (e.g., institutional misconduct, adjustment to prison) and in the long-term (e.g., new arrest, new convictions for assaultive or violent behavior)?

2) Is program impact differentially associated with certain types of inmate characteristics (e.g., Is there a greater positive impact associated with lower risk individuals; females; program completers, individuals highly motivated to participate in treatment)?

Overall, it was anticipated that:

1) When compared with non-completers, individuals who completed Anger Management would have more favorable outcomes. Specifically, when compared with non-completers, people who completed Anger Management were expected to have fewer infractions, lower

recidivism rates, fewer rearrests, and a longer time to return custody and/or rearrest. Given the Anger Management program is a low intensity program, it was expected that the curriculum would have the larger impact on infractions which are a more proximal outcome to Anger Management participation and have a more modest impact on the longer-term recidivism outcomes.

2) When compared with individuals who had a higher level of exposure to the program, those with lower or minimal level of exposure to the Anger Management program would have less favorable outcomes. Specifically, participants with a lower exposure level were expected to have more infractions following Anger Management programing, higher recidivism, and shorter time to return to custody or rearrest.

3) Anger Management participants would have fewer infractions in the 6 months following program participation than they had in a 6-month period prior to participation, and the reduction in infractions would be greater for completers versus non-completers and for higher versus lower “dosage” levels.

QUANTITATIVE DATA COLLECTION

Method

This evaluation includes pre-, during-, and post-program data collected by the BOP that was used to evaluate the effectiveness of the Anger Management program. These data domains included the following areas:

(A) Inmates’ demographic information and other baseline characteristics (e.g., security level, mental health status, previous offenses) potentially associated with participation and completion of Anger Management;

(B) Short-term outcomes while in custody, such as institutional adjustment, and the degree to which Anger Management effectively mitigates subsequent infractions;

(C) Longer-term outcomes following release from a BOP facility, such as arrests and reincarceration, and whether people who complete the Anger Management program have fewer arrests and reincarceration events when compared to those who do not complete the program.

Data sources

This evaluation relied on information from multiple data sources as a part of the quantitative analyses. An abbreviated list of data sources and variables of interest has been displayed in Table 1.

Table 1

A List of Important Datasets and Variables Used Throughout the Report

Data Source/Variable	Description
Current Count	
Start Date	The date a person started Anger Management
Stop Date	The date the status of Anger Management enrollment was last updated
Facility	The BOP facility where a person took Anger Management
Number of Hours	The total number of group hours completed
Status	Whether a person completed the Anger Management program: Completed, Expelled, Incomplete, Withdrawal
Previous Offense	The offense for which a person is currently completing their sentence while enrolled in the Anger Management program
Total *N*	11,495
Demographics	
Sex	Male vs. Female
Race	Asian vs. Black/African American vs. Indigenous, vs. White
Ethnicity	Hispanic vs. Non-Hispanic
Birth Year	Year the person was born: 1933-1998
Total N	11,495
Movement Data	
Start Date	Day of movement
Stop Date	Day of completion of movement
Group Code	Type of movement: Admissions vs. Releases; Permanent vs. Temporary
Total *N*	725,959

Table 1 (cont.)

Data Source/Variable	Description
Infractions	
Incident date of infraction	The date the infraction was recorded
Current Incident Status Report	Current status of the infraction incident. Infractions with a status of Sanctioned were included in the analyses
Sentencing	
Commitment Date	The date a person was admitted to a BOP facility
Total *N*	21,223
Arrest (National Law Enforcement Telecommunications System (NLETS)	
Arrest Date	The date a person was arrested
Total *N*	725,959
Mental Health	
Start Date	Date mental health status updated
Stop Date	Date mental health status resolved
Mental Health Care Level	Level 1 vs. Level 2 vs. Level 3 vs. Level 4
Total *N*	17,988

Note. This is not an exhaustive list of all variables in these datasets, but rather the variables pertinent to this report.

Quantitative Sample

- The effect of Anger Management was evaluated among people who had started the program for the first time between March 2014 and December 2018.
- As illustrated in Table 2, there were 11,882 people that enrolled in the program for the first time across 109 facilities.
- Most people who enrolled in Anger Management were between 30 and 39 years old (39.4%) male (85.9%), White (50.2%), and non-Hispanic (78.1%).
- Overall, 8,126 (68.3%) completed the program, 24 (< 1.0%) enrolled, 913 (7.7%) were expelled, 1,190 (10.0%) were incomplete, and 1,242 (10.5%) had withdrawn.
- The average number of Anger Management programming clients received was 7.73 hours (*SD* = 4.72) across completion categories.

Table 2

Demographic Information for Full Sample (N = 11,882)

Demographic	Total (*n*)	Percent (%)
Age		
19-29	2,058	17.3
30-39	4,681	39.4
40-49	3,339	28.0
50-59	1,387	11.7
60+	427	3.6
Sex		
Female	1,670	14.1
Male	10,212	85.9
Race		
Asian	150	1.3
Black/African American	5,265	44.3
Indigenous	501	4.2
White	5,966	50.2
Ethnicity		
Hispanic	2,601	21.9
Non-Hispanic	9281	78.1
Completion Status		
Completed	8,126	68.3
Enrolled	24	< 1.0
Expulsion	913	7.7
Withdrawn	1,242	10.5
Incomplete	1,190	10.0

Note. Numbers represent total numbers and percentages.

Infraction Sample

Infractions were examined before and after participation in Anger Management as an indicator of institutional adjustment and were examined separately for a 6-month period before and after Anger Management participation as well as a 12-month period before and after. The overall Anger Management sample included 11,882 people who participated in Anger Management between

2014 and 2018. The current sentence for the sample was determined based on the sentence start date prior to the start of Anger Management and the sentence end date was after the start of Anger Management participation. A total of 387 people did not have sentencing data reducing the analysis sample to 11,495.

For analyses of infractions within 6 months before and after Anger Management participation, participants were required to have at least 6 months in the current sentence prior to participating in Anger Management and at least 6 months after participation in the current sentence before being released. This restriction resulted in a 6-month sample of 9,313. For analyses within 12 months before and after Anger Management, the sample consisted of participants who had at least 12 months before and after Anger Management, resulting in a sample of 6,093.

A total of 98,516 separate infractions were listed for the Anger Management sample. All infractions that resulted in a sanction were counted during the relevant periods. Overall, 70.1% (*n* = 69,711) of infractions resulted in a sanction. An infraction event often included multiple charges but were counted as a single event.

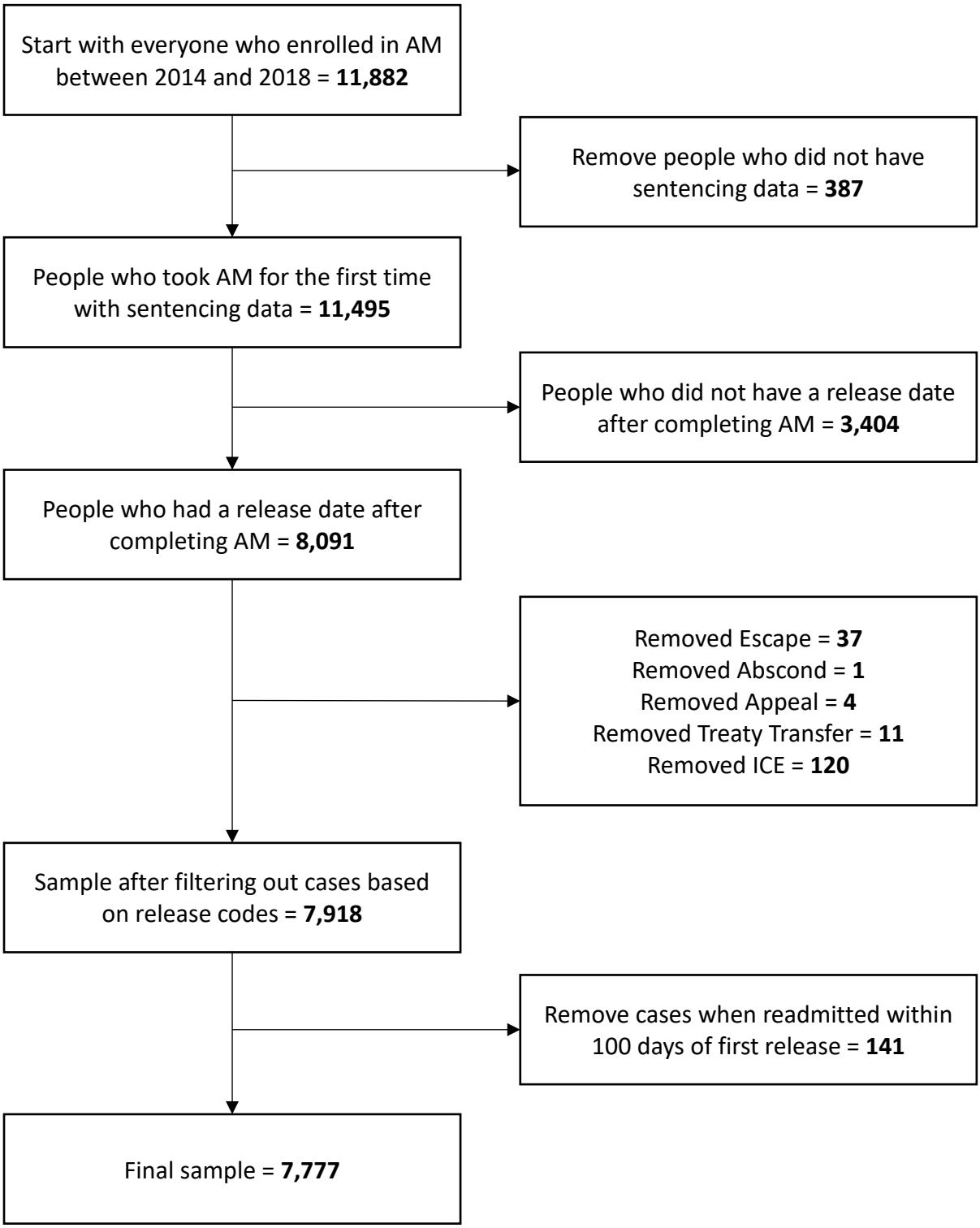
Recidivism Sample

For all analyses involving recidivism, the effect of the Anger Management program was similarly examined among people who had enrolled in the program for the first time (see Figure 1). 387 (3.3%) people from the original sample did not have sentencing data and were removed from the analytic dataset. Additionally, 3,404 (29.6%) were not released before December 2021 and were not included in the analyses involving recidivism.

To obtain our recidivism sample, permanent releases occurring after participants' enrollment in Anger Management were identified. Considering participants could have multiple permanent releases following their first completion of Anger Management (e.g., serving multiple sentences), a person's first permanent release was examined. Based on advice from the BOP, inmates with a permanent release listed as an escape, abscond, appeal, treaty transfer, Immigrations and Customs Enforcement (ICE) removed were filtered out of the dataset (*n* = 173, 2.1%). Only inmates with a permanent release who were not re-admitted within 100 days were retained in the recidivism sample (*n* = 7,777, 98.2%). In collaboration with the BOP, this 100-day buffer period was used to account for potential coding errors in the data—ensuring those in the recidivism sample had been permanently released.

Figure 1

Defining Recidivism Sample



- There were 7,777 people that were retained in the final analytic dataset when evaluating recidivism outcomes.
- Most people in the recidivism dataset were between 30 and 39 years old (39.6%), male (84.0%), White (50.3%), and non-Hispanic (78.8%).
- Overall, 5,452 (70.1%) completed the program, 617 (7.9%) were expelled, 819 (10.5%) were incomplete, and 889 (11.4%) had withdrawn.
- The average number of Anger Management programming clients received was 7.63 hours (*SD* = 4.78) across completion categories.

Analytic Approach

The Anger Management evaluation included two primary outcomes—institutional adjustment and recidivism. Institutional adjustment was assessed using the number of infractions committed during a 6-month and a 12-month time frame before and after participating in Anger Management while in federal custody. In contrast, recidivism was operationalized using rearrests and return to federal custody after release. Rearrest and return to federal custody was assessed as a dichotomous variable (Yes vs. No) during a specified time (e.g., 12 months, 24 months, 36 months) as well as the number of days to event.

Institutional adjustment

BOP disciplinary data were used to assess institutional adjustment. Infractions occurring after participation in Anger Management were examined at 6- and 12-months post-Anger Management participation and prior to release from federal custody. These outcomes were measured as the number of infractions acquired during the time period that resulted in sanctions. Number of infractions pre- and post-Anger Management were examined in relation to program completion status and program dosage, as well as demographic factors, mental health status prior to Anger Management, security level, and sentence offense.

A series of multiple linear regressions were performed predicting number of infractions occurring post-Anger Management for the Anger Management variables, demographics, mental health status and security level, and sentence offense. Each of these classification variables was dichotomized for the regression analyses. The number of infractions variable was truncated due to the presence of skewness and outliers with number of infractions in the 6-month time periods

truncated at six or more and, for the 12-month time period, at seven or more. For each of these regressions, the number of infractions after Anger Management was regressed on the classification factor controlling for the number of infractions prior to Anger Management. Least square means for post-Anger Management infractions were computed for each group and differences were evaluated with an *F* test and R^2- value.

Change in infractions before and after Anger Management completion

Changes within Anger Management participants in the number of infractions committed in the 6- and 12-months before and after Anger Management participation also were examined. These comparisons additionally examined pre-post changes between Anger Management completion/non-completion and Anger Management dosage levels.

Recidivism

The recidivism sample was used to assess arrests and return to federal custody. The National Law Enforcement Telecommunications System (NLETS) data were used to assess rearrest rates at 12-, 24-, and 36-months after release. Return to federal custody was documented using new federal sentences occurring after release. Return to federal custody was examined at 12-, 24-, and 36-months after release.

Group Comparisons

Defining appropriate comparison groups for the Anger Management (AM) evaluation is complex—with each approach having its own strengths and weaknesses. As such, we conducted several comparisons using the available data. These include completion status (Anger Management completers vs. non-completers), dosage of Anger Management participation (low vs. moderate vs. high), and within-person changes in the number of infractions committed before and after Anger Management program completion.

AM completers vs non-completers

Seventy-one percent (*n* = 8,126) of people who participated in Anger Management completed the program. Completers vs. non-completers were compared on the outcomes described above. The non-completer group was created by combining individuals who were categorized as expelled, incomplete, and withdrew.

AM high vs. moderate vs. low dosage

Groups also were defined based on Anger Management dosage—that is, the number of AM hours completed was examined as a predictor of treatment effectiveness. Anger Management courses typically include about 10-12 hours of programming and completers average 9.62 hours of programming (*SD* = 3.86). However, 36% of Anger Management participants are listed as having completed fewer than 6 hours total. Thus, we examined the relationship between Anger Management dosage (i.e., 0-6 hours, 6-10 hours, vs. 10+ hours) and subsequent institutional adjustment and recidivism.

Potential Moderators and Covariates

Understanding that there are a myriad of factors impacting the interpretability of our results, potential covariates and moderators affecting the impact of Anger Management were explored. Participants' sociodemographic information (e.g., age, sex, race, ethnicity), program characteristics (e.g., dosage, security level), and additional individual differences (e.g., mental health status) were evaluated with respect to their effect on program completion, infractions, and recidivism. Given our large sample size, the effect of these variables was evaluated using effect sizes and interpreted as being of low, moderate, or high clinical significance (see Cohen, 1988). Variables with an effect size of at least low clinical significance were considered as potential covariates or moderators in models using inferential statistics. The final determination, however, as to which variables were included in these models was determined using clinical significance, conceptual clarity, and the potential interpretability of the results.

QUANTITATIVE RESULTS

Anger Management Participant Characteristics

- Table 3 depicts all persons who started Anger Management (i.e., completed, expelled, incomplete, withdrawn), broken down by demographic information, sentencing offense (i.e., the offense committed for which the person is currently serving their sentence while taking Anger Management), facility type, and mental health level (Levels 1-4). Note the table does not include 24 people who enrolled but had yet to start the Anger Management program.
- Within each demographic category, people who were above 40 years old (75.2%-77.8%), females (76%), Asians (75%), and Hispanics (75%) were most likely to complete Anger Management relative to other demographic groups.

- People with a sentencing offense for drugs, fraud/bribery, sex offenses, and/or miscellaneous all have completion rates of at least 75%.
- Federal Prison Camps, Federal Detention Centers, and Low-Security Federal Correctional Institutions had the highest completion rates of 87%, 78%, and 77%, respectively.
- People with a Level 1 mental health status had the highest completion rate (72%), with individuals with Levels 2, 3, and 4 being relatively equal (62-63%).

Table 3

Anger Management Completion Status by Demographic Information (N = 11,471)

Demographic	Completed	Expelled	Incomplete	Withdrawn
Age				
19-29 (*n* = 1,963)	1,236 (63.0)	220 (11.3)	253 (12.9)	251 (12.8)
30-39 (*n* = 4,526)	3,117 (68.9)	417 (9.2)	499 (11.0)	493 (10.9)
40-49 (*n* = 3,243)	2,439 (75.2)	198 (6.1)	280 (8.6)	326 (10.1)
50-59 (*n* = 1,334)	1,016 (76.2)	65 (4.8)	121 (9.1)	132 (9.9)
60+ (*n* = 405)	315 (77.8)	13 (3.2)	37 (9.1)	40 (9.9)
Sex				
Female (*n* = 1,627)	1,238 (76.1)	58 (3.6)	131 (8.1)	200 (12.3)
Male (*n* = 9,844)	6,888 (70.0)	855 (8.7)	1059 (10.8)	1042 (10.6)
Race				
Asian (*n* = 141)	106 (75.2)	10 (7.1)	12 (8.5)	13 (9.2)
Black/African American (*n* = 5,061)	3,404 (67.3)	532 (10.5)	581 (11.5)	544 (10.7)
Indigenous (*n* = 482)	308 (63.9)	51 (10.6)	53 (11.0)	70 (14.5)
White (*n* = 5,787)	4,308 (74.4)	320 (5.5)	544 (9.4)	615 (10.6)
Ethnicity				
Hispanic (*n* = 2,540)	1,901 (74.8)	143 (5.6)	264 (10.4)	232 (9.1)
Non-Hispanic (*n* = 8,931)	6,225 (69.7)	770 (8.6)	926 (10.4)	1010 (11.3)
Previous Sentencing Offense				
Drugs (*n* = 4,928)	3,665 (74.4)	311 (6.3)	448 (9.1)	504 (10.2)

Table 3 (cont.)

Demographic	Completed	Expelled	Incomplete	Withdrawn
Weapons/Explosives (*n* = 3,173)	2,071 (65.3)	347 (10.9)	378 (11.9)	377 (11.9)
Homicide/Aggravated Assault (*n* = 876)	590 (67.4)	89 (10.2)	91 (10.4)	106 (12.1)
Burglary/Larceny (*n* = 905)	628 (69.4)	89 (9.8)	102 (11.3)	86 (9.5)
Counterfeit/ Embezzlement (*n* = 39)	27 (69.2)	2 (5.1)	5 (12.8)	5 (12.8)
Court/Corrections (*n* = 234)	144 (61.5)	31 (13.2)	31 (13.2)	28 (12.0)
Immigration (*n* = 306)	191 (62.4)	24 (7.8)	51 (16.7)	40 (13.1)
Fraud/Bribery (*n* = 849)	646 (76.1)	51 (6.0)	75 (8.8)	77 (9.1)
Sex Offenses (*n* = 1167)	874 (74.9)	62 (5.3)	113 (9.7)	118 (10.1)
Robbery (*n* = 787)	512 (65.1)	78 (9.9)	97 (12.3)	100 (12.7)
Miscellaneous (*n* = 148)	109 (73.6)	14 (9.5)	12 (8.1)	13 (8.8)
Continuing Criminal Enterprise (*n* = 16)	12 (75.0)	1 (6.3)	2 (12.5)	1 (6.3)
Facility Type				
USP (*n* = 2,574)	1,526 (59.3)	440 (17.1)	329 (12.8)	279 (10.8)
FPC (*n* = 336)	291 (86.6)	11 (3.3)	14 (4.2)	20 (6.0)
FMC (*n* = 736)	538 (73.1)	29 (3.9)	91 (12.4)	78 (10.6)
MCC (*n* = 28)	16 (57.1)	0 (0.0)	7 (25.0)	5 (17.9)
FDC (*n* = 78)	61 (78.2)	1 (1.3)	5 (6.4)	11 (14.1)
FTC (*n* = 29)	20 (69.0)	2 (6.9)	4 (13.8)	3 (10.3)
FCI-Low (*n* = 3,394)	2,616 (77.1)	132 (3.9)	346 (10.2)	300 (8.8)
FCI-Medium (*n* = 4,296)	3,058 (71.2)	298 (6.9)	394 (9.2)	546 (12.7)

Table 3 (cont.)

Demographic	Completed	Expelled	Incomplete	Withdrawn
Mental Health Status				
Level 1 (*n* = 10,003)	7,211 (72.1)	829 (8.3)	926 (9.3)	1037 (10.4)
Level 2 (*n* = 1,136)	707 (62.2)	74 (6.5)	184 (16.2)	171 (15.5)
Level 3 (*n* = 213)	130 (61.0)	8 (3.8)	51 (23.9)	24 (11.3)
Level 4 (*n* = 48)	30 (62.5)	0 (0.0)	14 (29.2)	4 (8.3)

Note. Numbers represent frequencies and percentages (in parentheses). USP = United States Penitentiary; FPC = Federal Prison Camp; FMC = Federal Medical Center; MCC = Metropolitan Correctional Center; FDC = Federal Detention Center; FTC = Federal Transfer Center; FCI-Low = Low-Security Federal Correctional Institution; FCI-Medium = Medium-Security Federal Correctional Institution.

Predictors of Anger Management Completion

- To evaluate predictors of Anger Management completion, the variable defining completion status was dichotomized into Completers (*n* = 8,126) vs. Non-Completers (Expelled, Incomplete, and Withdrawn; *n* = 3,345).
- Age was evaluated as a continuous variable ranging from 19 to 83.
- Race dichotomized into White vs. combined Asian, Black/African American, and Indigenous.
- Security Level categorized to compare Low (FPC, FCI-Low) vs. Medium (FCI-Medium) vs. High (USP) vs. Administrative (FMC, MCC, FDC, FTC).
- A point-biserial correlation showed a weak association between age and completion status, $r = 0.07$, $p \leq .001$, $R^2 \leq 0.01$, when not completed was coded as the reference category.
- The 2x2 Pearson's Chi-squared tests showed a modest association between sex, race, and ethnicity and program completion. These associations were classified as having low clinical significance ($d < 0.2$).
- The 4x2 Pearson's Chi-squared tests showed an association between security level and mental health status and program completion. These associations were observed to be of low clinical significance ($V = 0.15$).

Table 4

Chi-Squared Tests: Demographics by Completion Status (Completed vs. Non-Completed)

Demographic	χ^2	*df*	*p*	*d/V*
Sex	24.71	1	< .001	0.09
Race	74.09	1	< .001	0.16
Ethnicity	25.98	1	< .001	0.10
Security Level	259.67	3	< .001	0.15
Mental Health Status	59.81	3	< .001	0.07

Note. Cohen's *d* was calculated for all 2x2 contingency tables. Cramer's *V* was calculated for all other contingency tables (4x2).

Is Anger Management Effective?

Institutional adjustment - infractions

- Infractions occurring before and after participation in Anger Management were examined as an indicator of institutional adjustment.
- Table 5 shows the sample sizes for the total Anger Management sample and the sample with sentencing data used to determine the current sentence. Examination of infractions looked at 6-month and 12-month time periods before and after Anger Management participation. The available sample with at least 6 months before and after Anger Management and with sentencing data was 9,313. The total sample with at least 12 months before and after Anger Management and with sentencing data was 6,906.

Table 5

Sample size with 6 and 12 Months pre- and post-Anger Management

	N
Total Anger Management sample size	11,882
Sample size with sentencing data	11,495
6 months pre- and post-Anger Management	9,313
12 months pre- and post-Anger Management	6,906

Number of infractions and change in number of infractions

- Table 6 shows the number of infractions in the 6 months before and after Anger Management and in the 12-month window before and after Anger Management.

- In the 6-month time period, 81.3% of participants did not have any infractions in the 6 months prior to Anger Management compared with 79.7% without any infractions in the 6 months after Anger Management. Less than 10% of Anger Management participants had more than one infraction in the 6 months before or after Anger Management. The maximum number of infractions was 14 in the 6 months before Anger Management and 22 in the 6 months after Anger Management
- In the 12-month time period, 66.2% of participants did not have any infractions before Anger Management and 66.9% did not have any after Anger Management. Less than 10% had more than two infractions in the 12-month period before or after Anger Management. The maximum number of infractions was 25 in the 12 months before Anger Management and 31 in the 12 months after Anger Management.

Table 6

Number of infractions pre- and post-Anger Management

	Pre-AM		Post-AM	
6 months				
# Infractions	**N**	**%**	**N**	**%**
0	7,569	81.3%	7,418	79.7%
1	1,264	13.6%	1,342	14.4%
2	338	3.6%	348	3.7%
3	90	1.0%	122	1.3%
4	28	0.3%	35	0.4%
5 or more	24	0.3%	48	0.5%
12 months				
	N	**%**	**N**	**%**
0	4568	66.2%	4,622	66.9%
1	1361	19.7%	1,304	18.9%
2	509	7.4%	516	7.5%
3	253	3.7%	215	3.1%
4	107	1.6%	120	1.7%
5 or more	108	1. 6%	129	1.9%

- Table 7 shows the change in infractions from the post-Anger Management period compared to the pre-Anger Management period. (# of infractions post-Anger Management minus # of infractions pre-Anger Management). A positive number indicates an increase in the number of infractions; a negative number indicates a decrease in the number of infractions.
- For the 6-month pre- and post-Anger Management periods, 71.0% of Anger Management participants had no change in number of infractions. 10.4% decreased by one infraction and 11.5% increased by one infraction. Fewer than 10% increased or decreased by more than one infraction.
- For the 12-month pre- and post-Anger Management period, 56% did not change in number of infractions, 14% decreased by one and 14% increased by one. Fewer than 10% increased by more than one or decreased by more than one.

Table 7

Change in Number of Infractions from pre-Anger Management to post-Anger Management

Post minus Pre*	%	**N**
6 months pre/post		9,313
-3 or more	0.9%	79
-2	2.3%	216
-1	10.4%	968
0	71.0%	6,608
1	11.5%	1,073
2	2.7%	252
3 or more	1.4%	117
12 months pre/post		6,906
-3 or more	3.6%	249
-2	4.4%	305
-1	14.3%	988

Table 7 (cont.)

Post minus Pre*	%	**N**
0	55.8%	3,854
1	13.8	950
2	4.6%	320
3 or more	3.5%	240

Note. **Positive** value indicates **more** infractions during post-Anger Management period than during pre-Anger Management period; **Negative** values indicate **fewer** infractions during post-Anger Management period than during pre-Anger Management period

Infractions by Anger Management completion status and dosage

- Table 8 shows the number of infractions (0, 1, or 2 or more) for the 6-month and 12-month time frames pre- and post-Anger Management by Anger Management completion status and Anger Management dosage in terms of number of hours completed.
- For the 6-month time frame, program completers were more likely to not have any infractions both pre- (84.4%) and post-Anger Management (83.0%) with similar numbers pre- and post-Anger Management for one and for two or more infractions.
- A similar pattern was also found for the 12-month time frame with 70.3% of Anger Management completers having zero infractions in the 12 months prior to Anger Management and 72.2% in the 12 months after Anger Management.
- Anger Management participants who were expelled less more likely than completers to not have any infractions 6 months pre- and post-Anger Management (67.5% and 66.2%) followed by those who were classified as incomplete (72.1% and 71.9%) and those who had withdrawn (78.5% and 73.9%).
- A similar pattern was seen for the 12-month time frame although overall more people had infractions both pre- and post-Anger Management.
- Dosage in terms of hours completed in both the 6-month and 12-month time frames was also associated with fewer infractions, as those who completed 6 or fewer hours were most likely to have infractions, compared with higher dosage groups, both pre- and post-Anger Management.

Table 8

Number of Infractions pre- and post-Anger Management by Anger Management Completion Status and Dosage

		Pre-AM			Post-AM		
		0	1	2+	0	1	2+
6-Month	**N**	7,569	1,264	480	7,418	1,342	553
AM Status							
Completed	6,695	84.4%	11.9%	3.7%	83.0%	12.7%	4.2%
Expelled	751	67.5%	22.0%	10.5%	66.2%	21.6%	12.3%
Incomplete	867	72.1%	17.3%	10.6%	71.9%	17.9%	10.3%
Withdrawn	1,000	78.5%	15.1%	6.4%	73.9%	17.2%	8.9%
Dosage							
0 – 6 hours	3,226	76.5%	16.0%	7.5%	74.4%	17.0%	8.6%
6+ to 10	3,382	83.5%	12.7%	3.8%	82.3%	13.1%	4.6%
10+	2,705	84.1%	11.8%	4.1%	82.6%	12.9%	4.4%
12-Month	**N**	4,568	1,361	977	4,622	1,304	980
AM Status							
Completed	4,981	70.3%	18.3%	11.5%	72.2%	17.1%	10.8%
Expelled	562	46.6%	29.2%	24.2%	46.4%	26.3%	27.2%
Incomplete	650	55.2%	21.9%	22.9%	54.6%	23.5%	21.9%
Withdrawn	713	62.8%	20.2%	17.0%	57.6%	21.5%	20.9%
Dosage							
0 – 6 hours	2,316	59.0%	21.1%	19.9%	58.6%	21.1%	20.3%
6+ to 10	2,556	70.3%	18.2%	11.4%	70.9%	18.0%	11.2%
10+	2,034	69.0%	20.0%	11.1%	71.5%	17.5%	11.0%

Infractions by demographics

- Table 9 shows the number of infractions (0, 1, or 2 or more) for the 6-month and 12-month time frames pre- and post-Anger Management by demographic variables (sex, race, ethnicity and age).
- Overall, males and females did not appear to differ in terms of number of infractions, nor did Hispanics/non-Hispanics.
- In terms of race, individuals who were Asian were most likely to have zero infractions, 87.0% pre and 88.9% post for the 6-month time frame. For the 12-month time frame prior to Anger Management, 67.5% of people who were Asian did not have any infractions and this increased to 81.3% for the 12 months after Anger Management.
- People who were White (82.9% and 81.8% pre and post) and Black (80.2% and 77.6% pre and post for the 6-month time frame) had similar patterns. However, for the 12-month time frame, 69.3% of people who were White had zero infractions compared to 63.7% of people who were Black prior to Anger Management and 70.8% of White individuals had zero infractions in the 12 months after Anger Management compared to 63.3% of Black individuals.
- The people belonging to the Indigenous group were least likely to not have infractions at 71.7% and 74.6% pre- and post-Anger Management in the 6-month time frame and 54.9% and 58.8% pre- and post-Anger Management in the 12-month time frame.
- Younger participants were more likely than older participants to have infractions pre- and post-Anger Management as less than 70% of those under the age of 30 had zero infractions compared to over 80% for those above the age of 40 in the 6-month time frame; only 47.8% of those under the age of 30 did not have any infractions in the 12 months prior to Anger Management and 50.5% after Anger Management compared to 70% for those 40 years old or older before and after.

Table 9

Infractions pre- and post-Anger Management by Demographics

			Pre-AM			Post-AM	
		0	1	2+	0	1	2+
6-month	**N**	7,569	1,264	480	7,418	1,342	553
Sex							
Female	1,203	80.8%	14.3%	4.9%	80.5%	13.6%	5.9%
Male	8,110	81.3%	13.5%	5.2%	79.5%	14.5%	5.9%
Race							
Asian	108	87.0%	12.0%	0.9%	88.9%	8.3%	2.8%
Black	4,262	80.2%	14.2%	5.6%	77.6%	15.7%	6.7%
Indigenous	346	71.7%	18.8%	9.5%	74.6%	18.5%	6.9%
White	4,597	82.9%	12.6%	4.6%	81.8%	13.0%	5.2%
Ethnic							
Hispanic	2,019	81.9%	13.2%	4.9%	80.0%	14.8%	5.3%
Non-Hispanic	7,294	81.1%	13.7%	5.2%	79.6%	14.3%	6.1%
Age							
19-29	1,495	69.2%	20.3%	10.4%	68.6%	20.2%	11.2%
30-39	3,707	79.9%	14.8%	5.4%	78.0%	15.8%	6.2%
40-49	2,679	85.8%	10.8%	3.4%	83.7%	11.9%	4.4%
50-59	1,097	88.9%	8.4%	2.7%	86.7%	10.6%	2.7%
60+	335	89.9%	9.3%	0.9%	91.6%	5.7%	2.7%
12 Month	**N**	4,568	1,361	977	4,622	1,304	980
Sex							
Female	740	64.5%	20.1%	15.4%	66.0%	19.1%	15.0%
Male	6,166	66.4%	19.7%	14.0%	67.1%	18.9%	14.1%
Race							
Asian	80	67.5%	20.0%	12.5%	81.3%	12.5%	6.3%
Black	3,296	63.7%	20.9%	15.4%	63.3%	20.5%	16.2%
Indigenous	233	54.9%	22.3%	22.8%	58.8%	20.6%	20.6%
White	3,297	69.3%	18.3%	12.3%	70.8%	17.3%	11.9%

Table 9 (cont.)

		Pre-AM			Post-AM		
		0	1	2+	0	1	2+
Ethnic							
Hispanic	1,421	66.2%	20.8%	13.1%	67.7%	19.1%	13.2%
Non-Hispanic	5,485	66.1%	19.4%	14.4%	66.7%	18.8%	14.4%
Age							
19-29	968	47.8%	25.9%	26.2%	50.5%	23.5%	26.0%
30-39	2,756	62.7%	21.6%	15.7%	63.5%	21.0%	15.5%
40-49	2,058	71.6%	18.2%	10.2%	72.3%	17.1%	10.6%
50-59	856	79.4%	12.6%	7.9%	77.9%	14.1%	7.9%
60+	268	82.8%	12.7%	4.5%	85.1%	9.7%	5.2%

Infractions by mental health care level and security level

- Table 10 shows the number of infractions (0, 1, or 2 or more) for the 6-and 12-month time frames pre- and post-Anger Management by mental health level status (Level 1 through 4) and security level of the institution (High, Medium Low/Medical, and Administrative)
- Overall participants who were Level 1 were most likely to not have any infractions in the 6-month pre- or post-Anger Management time frame (over 80% pre- and post-Anger Management) compared to 68.4% to 75.8% for those classified as Level 2 or higher prior to Anger Management and 67.8% to 72.7% post-Anger Management.
- In the 12-month time frame, 67.5% and 68.0% of people with a Level 1 classification had 0 infractions pre- and post-Anger Management, respectively, compared to 55.1% and 54.1% for Level 2 and 3, respectively, prior to Anger Management and 57.9% and 55.4%, respectively, after Anger Management. Level 4 had the highest percentage of people with no infractions pre- and post-Anger Management at 69.0% and 75.9%, respectively, and showed an increase in people with zero infractions from pre- to post-Anger Management, although it should be noted the sample of Level 4 individuals consisted of only 29 people.
- Participants who attended Anger Management in Low Security facilities were most likely to have zero infractions during the 6-month time frame (over 85% pre- and post-Anger

Management) while those in High Security facilities were least likely to have zero infractions (less than 75%). For the 12-month time frame, 74.9% and 73.7% in Low Security facilities did not have any infractions pre- and post-Anger Management compared to 54.9% and 58.2% in High Security facilities.

Table 10

Infractions pre-and post-Anger Management by Mental Health Care Level and Security Level

		Pre-AM			Post-AM		
		0	1	2+	0	1	2+
6 Month	**N**	7,569	1,264	480	7,418	1,342	553
Mental Health							
Level 1	8,263	82.6%	12.9%	4.5%	80.7%	14.0%	5.3%
Level 2	842	71.3%	19.6%	9.1%	72.0%	17.5%	10.6%
Level 3	174	68.4%	14.9%	16.7%	67.8%	18.4%	13.8%
Level 4	33	75.8%	12.1%	12.1%	72.7%	18.2%	9.1%
Security Level							
Adm	438	84.0%	11.9%	4.1%	80.6%	14.6%	4.8%
Low	3,221	86.0%	11.2%	2.8%	85.2%	11.2%	3.7%
Medium	3,478	80.9%	14.3%	4.8%	78.6%	15.1%	6.4%
High	2,176	74.4%	16.2%	9.5%	73.0%	18.2%	8.8%
12 Month	**N**	4,568	1,361	977	4,622	1,304	980
Mental Health							
Level 1	6,154	67.5%	19.6%	13.0%	68.0%	19.0%	13.0%
Level 2	575	55.1%	22.6%	22.3%	57.9%	18.6%	23.5%
Level 3	148	54.1%	16.9%	29.1%	55.4%	17.6%	27.0%
Level 4	29	69.0%	6.9%	24.1%	75.9%	10.3%	13.8%
Security Level							
Adm	337	75.7%	14.5%	9.8%	73.9%	17.2%	8.9%
Low	2,239	74.9%	16.4%	8.7%	73.7%	17.1%	9.3%
Medium	2,618	64.9%	21.6%	13.5%	66.0%	18.9%	15.1%
High	1,712	54.9%	22.1%	23.1%	58.2%	21.5%	20.3%

Infractions by sentence offense

- Table 11 shows the number of infractions (0, 1, or 2 or more) for the 6-month and 12-month time frames pre- and post-Anger Management by the sentence offense. Note that the current sentence under which a participant takes Anger Management may have more than one offense.
- Overall, participants who had a drug offense, counterfeit/embezzlement offense, fraud/bribery, sex offense, and/or criminal enterprise offense were more likely to not have any infractions pre- and post-Anger Management compared to those who did not have those sentencing offenses.
- Participants with weapons, homicide/aggravated assault, burglary/larceny, court/corrections, immigration, robbery, and/or miscellaneous offenses were more likely to have infractions than those who did not have those sentencing offenses.
- This same pattern held true for the 12-month time frame.

Table 11

Infractions pre- and post-Anger Management by Sentence Offense

			Pre-AM			Post-AM		
			0	1	2+	0	1	2+
6 Month		**N**	7,569	1,264	480	7,418	1,342	553
Drugs								
	No	5,208	78.8%	14.5%	6.7%	77.3%	15.5%	7.2%
	Yes	4,105	84.4%	12.4%	3.2%	82.6%	13.1%	4.4%
Weapons								
	No	6,609	83.0%	12.7%	4.3%	81.6%	13.0%	5.4%
	Yes	2,704	77.1%	15.6%	7.3%	74.9%	17.8%	7.3%
Homicide/ Agg Assault								
	No	8,581	81.6%	13.3%	5.0%	79.9%	14.3%	5.8%
	Yes	732	77.1%	16.3%	6.7%	76.6%	15.3%	8.1%
Burglary/Larceny								
	No	8,549	81.6%	13.4%	5.0%	80.3%	14.0%	5.7%
	Yes	764	78.1%	15.5%	6.4%	72.0%	18.9%	9.2%

Table 11 (cont.)

		Pre-AM			Post-AM		
		0	1	2+	0	1	2+
Counterfeit/ Embezzlement							
No	9,292	81.3%	13.6%	5.1%	79.7%	14.4%	5.9%
Yes	21	90.5%	0.0%	9.5%	76.2%	14.3%	9.5%
Court/ Corrections							
No	9,120	81.5%	13.5%	5.1%	79.9%	14.3%	5.8%
Yes	193	71.0%	19.2%	9.8%	69.4%	19.2%	11.4%
Immigration							
No	9,136	81.5%	13.5%	5.1%	79.8%	14.3%	6.0%
Yes	177	70.1%	19.2%	10.7%	72.9%	22.0%	5.1%
Fraud/ Bribery							
No	8,750	81.0%	13.8%	5.2%	79.4%	14.7%	6.0%
Yes	563	86.0%	9.8%	4.3%	84.2%	10.7%	5.2%
Sex Offenses							
No	8,303	80.9%	13.9%	5.2%	79.0%	15.0%	6.0%
Yes	1,010	84.3%	10.8%	5.0%	85.1%	9.8%	5.2%
Robbery							
No	8,603	81.8%	13.3%	4.9%	80.0%	14.4%	5.6%
Yes	710	74.7%	16.8%	8.6%	75.8%	14.5%	9.7%
Misc.							
No	9,196	81.4%	13.5%	5.1%	79.7%	14.4%	5.9%
Yes	117	70.1%	19.7%	10.3%	76.9%	17.1%	6.0%
Cont. Criminal Enterprise							
No	9,298	81.3%	13.6%	5.2%	79.6%	14.4%	6.0%
Yes	15	86.7%	13.3%	0.0%	93.3%	6.7%	0.0%

Table 11 (cont.)

		Pre-AM			Post-AM		
		0	1	2+	0	1	2+
12 Month	**N**	4,568	1,361	977	4,622	1,304	980
Drugs							
No	3,845	63.6%	19.3%	17.1%	64.1%	19.6%	16.3%
Yes	3,061	69.4%	20.2%	10.4%	70.5%	18.0%	11.5%
Weapons							
No	4,802	68.7%	19.4%	12.0%	69.6%	17.4%	13.0%
Yes	2,104	60.4%	20.5%	19.2%	60.9%	22.3%	16.8%
Homicide/ Agg. Assault							
No	6,305	66.5%	19.7%	13.8%	67.2%	19.1%	13.7%
Yes	601	62.1%	20.0%	18.0%	64.2%	16.5%	19.3%
Burglary/Larceny							
No	6,287	66.6%	19.6%	13.8%	67.7%	18.6%	13.7%
Yes	619	61.2%	21.3%	17.5%	59.1%	21.8%	19.1%
Counterfeit/ Embezzlement							
No	6,891	66.1%	19.7%	14.1%	66.9%	18.9%	14.2%
Yes	15	73.3%	6.7%	20.0%	66.7%	20.0%	13.3%
Court/ Corrections							
No	6,752	66.4%	19.7%	13.9%	67.2%	18.9%	13.9%
Yes	154	55.8%	20.8%	23.4%	54.6%	19.5%	26.0%
Immigration							
No	6,815	66.4%	19.6%	14.0%	67.1%	18.9%	14.1%
Yes	91	47.3%	25.3%	27.5%	57.1%	20.9%	22.0%
Fraud/ Bribery							
No	6,585	66.0%	19.9%	14.1%	66.7%	19.0%	14.3%
Yes	321	68.9%	15.3%	15.9%	70.7%	16.5%	12.8%

Table 11 (cont.)

			Pre-AM			Post-AM	
		0	1	2+	0	1	2+
Sex Offenses							
No	6,104	65.2%	20.3%	14.6%	65.9%	19.4%	14.7%
Yes	802	73.3%	15.6%	11.1%	75.1%	14.7%	10.2%
Robbery							
No	6,319	66.7%	19.6%	13.7%	67.6%	18.8%	13.6%
Yes	587	60.1%	21.3%	18.6%	59.6%	19.4%	21.0%
Misc.							
No	6,817	66.3%	19.7%	14.0%	67.0%	18.8%	14.2%
Yes	89	58.4%	19.1%	22.5%	58.4%	24.7%	16.9%
Cont. Criminal Enterprise							
No	6,891	66.1%	19.7%	14.2%	66.9%	18.9%	14.2%
Yes	15	86.7%	13.3%	0.0%	73.3%	20.0%	6.7%

Prediction of post-Anger Management infractions by Anger Management completion and dosage and demographic variables controlling for pre-Anger Management infractions

- Table 12 shows mean number of infractions pre- and post-Anger Management for Anger Management completion, dosage, demographic variables, mental health status and security level well as least square means of number of post-Anger Management infractions controlling for number of pre-Anger Management infractions— including *F* tests, probability levels and R^2 values are also shown.
- These results show significant although very small differences in post-Anger Management infractions for Anger Management completers versus non-completers and low versus high Anger Management dosage groups. The mean number of infractions is below 0.5 in each case for the 6-month time frame due to the large number of individuals who did not have any infractions.
- Although the number of infractions is higher for the longer 12-month time frame, the mean number of infractions is still below one and the mean differences in post-Anger

Management infractions, even though statistically significant in most cases, is less than 0.4 infractions in all cases

- These results also show significant differences on all other classification variables except for sex and ethnicity for both the 6-month and 12-month time frames, although the difference between Hispanics and non-Hispanics is only marginally significant for the 12-month time frame.

Table 12

Mean Number of Infractions pre- and post-Anger Management by Anger Management Completion and Dosage and Demographic Variables

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
6 Month							*df*=1,9310		
AM Status									
Not complete	2,618	0.41	0.83	0.48	0.97	0.44	232.00	<.0001	0.081
Complete	6,695	0.21	0.56	0.23	0.60	0.25			
Dosage									
0 – 6 hours	3,226	0.35	0.78	0.41	0.89	0.38	116.85	<.0001	0.074
>6 hours	6,087	0.22	0.57	0.24	0.63	0.26			
Sex									
Female	1,203	0.27	0.68	0.29	0.74	0.29	0.14	0.7036	0.068
Male	8,110	0.26	0.65	0.30	0.73	0.30			
Race									
Non-black	5,051	0.25	0.61	0.27	0.68	0.27	22.10	<.0001	0.069
Black	4,262	0.28	0.70	0.34	0.79	0.33			
Ethnic									
Non-Hispanic	7,294	0.27	0.67	0.31	0.75	0.31	1.99	0.1581	0.068
Hispanic	2,019	0.25	0.60	0.28	0.68	0.29			
Age									
18-39	5,202	0.33	0.73	0.37	0.81	0.35	114.78	<.0001	0.073
40 or older+	4,111	0.17	0.52	0.21	0.62	0.24			

Table 12 (cont.)

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
Mental Health									
Level 1	8,263	0.24	0.61	0.28	0.69	0.29	77.33	<.0001	0.071
Level 2 to 4	1,049	0.46	0.92	0.48	0.97	0.43			
Security Level									
Low/Admin	3,659	0.18	0.52	0.21	0.60	0.24	92.52	<.0001	0.073
Medium/High	5,654	0.31	0.72	0.36	0.80	0.34			
12 Month AM Status	**N**						*df*=1,9310		
Not complete	1,925	0.88	1.37	0.96	1.46	0.87	280.76	<.0001	0.134
Complete	4,981	0.51	1.00	0.48	0.99	0.51			
Dosage									
0 – 6 hours	2,316	0.82	1.36	0.85	1.39	0.78	163.01	<.0001	0.124
>6 hours	4,590	0.50	0.98	0.49	1.01	0.53			
Sex									
Female	740	0.67	1.24	0.65	1.23	0.63	1.12	0.2898	0.114
Male	6,166	0.60	1.11	0.61	1.15	0.61			
Race									
Non-black	3,610	0.56	1.06	0.54	1.09	0.56	33.49	<.0001	0.117
Black	3,296	0.67	1.19	0.69	1.23	0.67			
Ethnic									
Non-Hispanic	5,485	0.62	1.15	0.63	1.19	0.62	4.11	0.0428	0.115
Hispanic	1,421	0.58	1.05	0.56	1.06	0.57			
Age									
18-39	3,724	0.76	1.23	0.76	1.28	0.71	157.84	<.0001	0.123
40 or older	3,182	0.43	0.97	0.43	0.98	0.49			
Mental Health									
Level 1	6,154	0.56	1.05	0.57	1.09	0.58	92.49	<.0001	0.119
Level 2 to 4	752	1.00	1.59	0.97	1.57	0.84			

Table 12 (cont.)

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
Security Level									
Low/Admin	2,576	0.40	0.88	0.43	0.93	0.50	112.17	<.0001	0.120
Medium/High	4,330	0.73	1.24	0.72	1.27	0.68			

Prediction of post-Anger Management infractions by sentence offense controlling for pre-Anger Management infractions

- Table 13 shows the mean number of infractions pre- and post-Anger Management for Sentence Offense as well as least square means of number of post-Anger Management infractions controlling for number of pre-Anger Management infractions. F tests, probability levels and R^2 values are also shown.
- For the 6-month time frame, there were significant differences for the following offenses: drug, weapons, homicide/aggravated assault, burglary/larceny, court/corrections/ sex offense, and robbery. Of these, having a drug offense and/or a sex offense was associated with fewer infractions post-Anger Management, while the other sentencing offenses were associated with more infractions post-Anger Management after controlling for the number of infractions pre-Anger Management.
- For the 12-month time period, results were similar with significant differences for the same offenses as for the 6-month time frame with the addition of a significant difference for immigration offenses. Again, having a drug offense and/or a sex offense was associated with fewer infractions post-Anger Management, while the other sentencing offenses were associated with more infractions post-Anger Management after controlling for the number of infractions pre-Anger Management.

Table 13

Mean Number of Infractions 6 Months pre- and post-Anger Management by Anger Management Completion and Sentence Offenses

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
6 Month							*df*=1,9311		
Drugs									
No	5,208	0.31	0.72	0.35	0.82	0.34	60.13	<.0001	0.071
Yes	4,105	0.20	0.55	0.24	0.61	0.25			
Weapons									
No	6,609	0.23	0.61	0.27	0.68	0.28	47.57	<.0001	0.070
Yes	2,704	0.34	0.74	0.38	0.84	0.36			
Homicide/ Agg. Assault									
No	8,581	0.26	0.65	0.29	0.72	0.30	11.85	0.0006	0.068
Yes	732	0.32	0.70	0.39	0.90	0.37			
Burglary/Larceny									
No	8,549	0.26	0.64	0.29	0.72	0.29	22.37	<.0001	0.069
Yes	764	0.33	0.78	0.42	0.82	0.40			
Counterfeit/ Embezzlement									
No	9,292	0.26	0.65	0.30	0.73	0.30	0.68	0.4106	0.068
Yes	21	0.38	1.36	0.43	0.93	0.39			
Court/ Corrections									
No	9,120	0.26	0.65	0.30	0.73	0.30	11.36	0.0008	0.068
Yes	193	0.45	0.88	0.47	0.85	0.42			
Immigration									
No	9,136	0.26	0.65	0.30	0.73	0.30	1.30	0.2547	0.068
Yes	177	0.44	0.79	0.36	0.73	0.31			

Table 13 (cont.)

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
Fraud/ Bribery									
No	8,750	0.27	0.66	0.30	0.73	0.30	3.12	0.0776	0.068
Yes	563	0.21	0.62	0.25	0.71	0.27			
Sex Offenses									
No	8,303	0.27	0.66	0.31	0.74	0.31	9.80	0.0017	0.068
Yes	1,010	0.23	0.62	0.24	0.68	0.25			
Robbery									
No	8,603	0.25	0.64	0.29	0.71	0.29	24.61	<.0001	0.069
Yes	710	0.37	0.75	0.43	0.98	0.40			
Misc.									
No	9,196	0.26	0.65	0.30	0.73	0.30	0.57	0.4523	0.068
Yes	117	0.44	0.80	0.35	0.83	0.30			
Cont. Criminal Enterprise									
No	9,298	0.26	0.65	0.30	0.73	0.30	1.65	0.1987	0.068
Yes	15	0.13	0.35	0.07	0.26	0.10			
12 Month							*df*=1,6907		
Drugs									
No	3,845	0.71	1.25	0.71	1.30	0.68	70.08	<.0001	0.118
Yes	3,061	0.49	0.94	0.49	0.95	0.53			
Weapons									
No	4,802	0.55	1.07	0.56	1.10	0.58	42.83	<.0001	0.116
Yes	2,104	0.76	1.24	0.74	1.28	0.69			
Homicide/ Agg Assault									
No	6,305	0.60	1.11	0.60	1.13	0.60	15.85	<.0001	0.115
Yes	601	0.76	1.33	0.78	1.41	0.73			

Table 13 (cont.)

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
Burglary/Larceny									
No	6,287	0.60	1.11	0.59	1.14	0.60	19.63	<.0001	0.116
Yes	619	0.74	1.27	0.80	1.32	0.75			
Counterfeit/ Embezzlement									
No	6,891	0.61	1.12	0.61	1.16	0.61	0.18	0.6682	0.114
Yes	15	0.93	2.02	0.73	1.44	0.62			
Court/ Corrections									
No	6,752	0.60	1.11	0.60	1.15	0.61	24.02	<.0001	0.116
Yes	154	0.99	1.63	1.04	1.54	0.91			
Immigration									
No	6,815	0.60	1.12	0.61	1.16	0.61	6.43	0.0112	0.115
Yes	91	1.01	1.32	0.90	1.42	0.76			
Fraud/ Bribery									
No	6,585	0.61	1.12	0.61	1.16	0.62	0.67	0.4141	0.115
Yes	321	0.66	1.27	0.56	1.17	0.55			
Sex Offenses									
No	6,104	0.63	1.14	0.63	1.17	0.63	17.38	<.0001	0.116
Yes	802	0.48	1.05	0.46	1.06	0.51			
Robbery									
No	6,319	0.59	1.11	0.59	1.13	0.60	27.82	<.0001	0.116
Yes	587	0.79	1.30	0.84	1.41	0.78			
Misc.									
No	6,817	0.61	1.12	0.61	1.16	0.61	2.91	0.0879	0.115
Yes	89	0.88	1.43	0.81	1.41	0.72			
Cont. Criminal Enterprise									

Table 13 (cont.)

		Pre-AM		Post-AM					
	N	Mean	Std	Mean	Std	LSMEAN	F	Prob	R^2
No	6,891	0.61	1.13	0.61	1.16	0.61	0.57	0.4509	0.114
Yes	15	0.13	0.35	0.40	0.83	0.57			

Rearrests

- Table 14 indicates that at 12-, 24-, and 36-months after release, individuals who completed Anger Management were rearrested at a lower rate than those who were listed as expelled, incomplete, or withdrawn.
    - A Chi-squared test compared completers and non-completers at 12-, 24-, and 36-months, $\chi^2(1) \geq 136.04$, *p*s < .001. The results showed the difference between these two groups was small at all follow-up periods (*d*s ≤ 0.3).
- Furthermore, people listed as incomplete and withdrawn were rearrested at a lower rate than those who were listed expelled. Individuals in the incomplete and withdrawn groups were comparable in rearrest rates across 12-, 24-, and 36-months.
    - A Chi-squared test compared the incomplete and expelled groups at 12-, 24-, and 36-months, $\chi^2(1) \geq 12.69$, *p*s ≤ .001, *d*s ≤ 0.24. A second Chi-squared test compared the withdrawn and expelled groups at 12-, 24-, and 36-months, $\chi^2(1) \geq 12.62$, *p*s ≤ .001, *d*s ≤ 0.25.

Table 14

Rearrest Rates by Completion Status

	12 months		24 months		36 months	
	n	%	*n*	%	*n*	%
Completed (*n* = 5,452)	1,123	20.6	1,737	31.9	2,066	37.9
Expelled (*n* = 617)	244	39.5	344	55.8	387	62.7
Incomplete (*n* = 819)	250	30.5	365	44.6	415	50.7
Withdrawn (*n* = 889)	273	30.7	391	44.0	447	50.3

Note. Numbers represent totals and percentages.

The effect of completion status and dosage on average days to rearrest

- Table 15 below shows the average number of days to rearrest for completion status (Completed, Expelled, Incomplete, Withdrawn) and dosage (Low: 0-6 hours, Medium: 7-10 hours, High: > 10 hours).
- Individuals who completed the Anger Management program had a higher number of days to rearrest compared to those who were expelled, incomplete, or withdrawn.
    - An independent samples *t*-test indicated that people who did not complete the program had a lower number of days to first rearrest compared to people who completed the program, $t(3064.5) = 4.35$, $p < .001$, $d = 0.15$.
- People who completed only 0-6 hours of Anger Management had a lower number of days to rearrest compared to those with 7+ hours of Anger Management programming.
    - The relationship between dosage and number of days to first rearrest was not significant, $F(2, 3788) = 2.42$, $p = .089$, $\eta^2 \leq .001$.

Table 15

Average Days to Rearrest by Completion Status and Dosage

Demographic	Mean	*SD*
Completion Status		
Completed	544.15	496.75
Expelled	451.92	456.44
Incomplete	488.16	485.97
Withdrawn	479.50	464.66
Dosage		
Low (0-6 hours)	498.56	484.09
Medium (7-10 hours)	537.24	498.36
High (> 10 hours)	526.92	479.19

Note. Data were only available until 8/16/2023; thus, any events occurring after this date are not included in this sample.

- Table 16 depicts the average number of days to first rearrest for people who completed and did not complete Anger Management grouped by demographic information, sentencing offense, security level, and mental health status.
- When assessed as a continuous variable, age was weakly associated with the number of days to first reincarceration, $r = 0.06$, $p \leq .001$, $R^2 = .01$, representing a small effect.
- Males and females who completed Anger Management had a larger number of days, on average, to their first rearrest when compared to people that did not complete the program.
    - The difference between males ($M = 506.12$) and females ($M = 611.47$) represented a small effect (t (530.19) = 3.91, $p \leq .001$, $d = 0.21$).
- There was no significant difference in average number of days to first rearrest for race (t(3416.5) = 0.77, $p = .443$, $d = .03$).
- People of Hispanic ethnicity ($M = 571.90$) had a higher number of days to first rearrest compared to those of non-Hispanic ethnicity ($M = 506.77$), t(892.66) = 2.86, $p = .004$, $d = 0.13$.
- Across all sentencing offenses, people who did not complete Anger Management had a fewer number of days, on average, to first rearrest when compared to people who did complete Anger Management.
- Across all security levels (i.e., low, medium, high, administrative), people who did not complete the Anger Management program had a fewer number of days, on average, to first rearrest when compared to those who completed the program.
    - The differences in the average number of days to first rearrest between people at different security levels represented a small effect (F(3, 3787) = 18.61, $p < .001$, $\eta^2 \leq .01$).
- Completing the Anger Management program was associated with a higher average number of days to first rearrest for individuals with a Level 1, 2 or 3 mental health status.
    - The effect of mental health status on the average number of days to first rearrest represented a negligible effect, F(3, 3760) = 4.40, $p = .004$, $\eta^2 \leq 0.01$.

Table 16

Average Number of Days to Rearrest: Completion Status by Demographics

Demographic	Completed	Non-Completed
Age		
19-29	493.72 (472.29)	428.53 (438.83)
30-39	565.27 (496.88)	480.68 (481.22)
40-49	529.97 (510.82)	496.47 (459.80)
50-59	570.39 (510.89)	555.28 (521.08)
60+	661.17 (460.89)	388.81(509.94)
Sex		
Female	630.36 (522.86)	560.58 (564.87)
Male	530.93 (491.42)	466.00 (458.96)
Race		
Asian	464.58 (356.47)	339.45 (278.05)
Black/African American	549.79 (488.34)	511.89 (476.51)
Indigenous	392.88 (374.64)	334.06 (316.20)
White	559.56 (517.70)	454.41 (482.71)
Ethnicity		
Hispanic	606.93 (545.95)	493.51 (538.87)
Non-Hispanic	529.16 (483.20)	470.60 (456.41)
Previous Sentencing Offense		
Drugs	610.93 (524.03)	562.64 (525.29)
Weapons/Explosives	485.11 (459.91)	458.89 (446.97)
Homicide/Aggravated Assault	453.51 (435.08)	404.54 (346.15)
Burglary/Larceny	471.34 (444.32)	428.51 (463.58)
Counterfeit/ Embezzlement	633.62 (679.47)	173.00 (115.13)
Court/Corrections	440.26 (308.80)	328.40 (360.67)
Immigration	624.19 (579.15)	485.98 (541.70)
Fraud/Bribery	578.58 (502.61)	534.54 (516.48)
Sex Offenses	513.10 (558.62)	385.59 (427.98)
Robbery	524.70 (461.69)	414.19 (365.84)

Table 16 (cont.)

Demographic	Completed	Non-Completed
Miscellaneous	410.48 (445.52)	412.42 (365.57)
Security Level		
Low	610.22 (522.07)	550.64 (530.99)
Medium	540.23 (487.21)	495.58 (482.82)
High	455.77 (453.56)	405.63 (404.13)
Administrative	554.62 (527.49)	460.75 (457.83)
Mental Health Status		
Level 1	556.03 (503.21)	483.04 (472.97)
Level 2	452.98 (429.64)	447.10 (470.09)
Level 3	570.24 (546.38)	276.63 (262.29)
Level 4	244.50 (252.31)	272.00 (80.58)

Note. Non-complete is a compilation of those who were expelled, incomplete, and withdrawn. Numbers represent means and standard deviations (in parentheses).

The effect of completion status on rearrest rates

- Table 17 depicts rearrest rates (Yes vs. No) at 12-, 24-, and 36-months after release for people who did and did not complete Anger Management grouped by demographic information, sentencing offense, security level, and mental health status.

Table 17

Rearrest Rates in 12, 24, and 36 Months, Completion Status, and Demographics

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
12 months				
Age				
19-29	249	646	223	316
30-39	484	1,633	346	620
40-49	295	1,269	146	398
50-59	82	582	44	173
60+	13	199	8	51

Table 17 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Sex				
Female	127	822	56	236
Male	996	3,507	711	1,322
Race				
Asian	9	64	6	22
Black/African American	507	1,777	382	745
Indigenous	88	135	73	60
White	519	2,353	306	731
Ethnicity				
Hispanic	198	1,019	115	313
Non-Hispanic	925	3,310	652	1,245
Previous Sentencing Offense				
Drugs	402	2,105	216	674
Weapons/Explosives	397	938	297	452
Homicide/Aggravated Assault	88	217	65	107
Burglary/Larceny	68	254	55	103
Counterfeit/ Embezzlement	5	20	5	5
Court/Corrections	19	65	32	22
Immigration	24	120	29	58
Fraud/Bribery	67	482	35	130
Sex Offenses	85	333	53	102
Robbery	79	224	65	101
Miscellaneous	11	52	12	17
Continuing Criminal Enterprise	0	2	0	0
Security Level				
Low	296	1,817	131	480
Medium	464	1,585	300	595
High	279	536	298	353

Table 17 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Administrative	84	391	38	130
Mental Health Status				
Level 1	971	3,885	636	1,327
Level 2	120	348	110	183
Level 3	17	56	13	30
Level 4	5	13	3	4
24 months				
Age				
19-29	376	471	306	209
30-39	761	1,212	504	411
40-49	438	982	221	283
50-59	139	469	60	144
60+	23	169	9	48
Sex				
Female	204	677	86	186
Male	1,533	2,626	1,014	909
Race				
Asian	15	53	10	11
Black/African American	801	1,307	560	502
Indigenous	122	88	98	30
White	799	1,855	432	552
Ethnicity				
Hispanic	314	810	161	248
Non-Hispanic	1,423	2,493	939	847
Previous Sentencing Offense				
Drugs	670	1,607	347	478
Weapons/Explosives	600	644	416	294
Homicide/Aggravated Assault	127	153	97	68
Burglary/Larceny	100	196	69	77

Table 17 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Counterfeit/ Embezzlement	9	16	5	5
Court/Corrections	32	40	37	16
Immigration	37	105	35	51
Fraud/Bribery	100	418	49	107
Sex Offenses	121	257	72	72
Robbery	115	164	94	62
Miscellaneous	19	36	17	12
Continuing Criminal Enterprise	0	2	0	0
Security Level				
Low	472	1,460	205	373
Medium	736	1,166	438	397
High	400	351	404	218
Administrative	129	326	53	107
Mental Health Status				
Level 1	1,506	2,971	912	939
Level 2	183	258	158	119
Level 3	26	44	18	24
Level 4	6	10	3	4
36 months				
Age				
19-29	433	360	345	150
30-39	922	891	565	290
40-49	516	772	251	216
50-59	163	375	79	109
60+	32	137	9	40
Sex				
Female	258	542	99	146
Male	1,808	1,993	1,150	659

Table 17 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Race				
Asian	17	46	11	9
Black/African American	957	965	642	351
Indigenous	139	62	110	16
White	953	1,462	486	429
Ethnicity				
Hispanic	376	633	181	198
Non-Hispanic	1,690	1,902	1,068	607
Previous Sentencing Offense				
Drugs	824	1,213	400	356
Weapons/Explosives	677	474	468	206
Homicide/Aggravated Assault	148	103	114	39
Burglary/Larceny	116	144	76	59
Counterfeit/ Embezzlement	12	11	5	5
Court/Corrections	38	27	41	8
Immigration	46	92	41	43
Fraud/Bribery	121	358	60	88
Sex Offenses	140	205	83	53
Robbery	145	110	107	33
Miscellaneous	20	32	19	8
Continuing Criminal Enterprise	0	1	0	0
Security Level				
Low	585	1,155	245	281
Medium	874	862	499	293
High	457	247	446	142
Administrative	150	271	59	89

Table 17 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Mental Health Status				
Level 1	1,805	2,269	1,039	685
Level 2	206	205	178	89
Level 3	32	33	19	19
Level 4	6	9	3	4

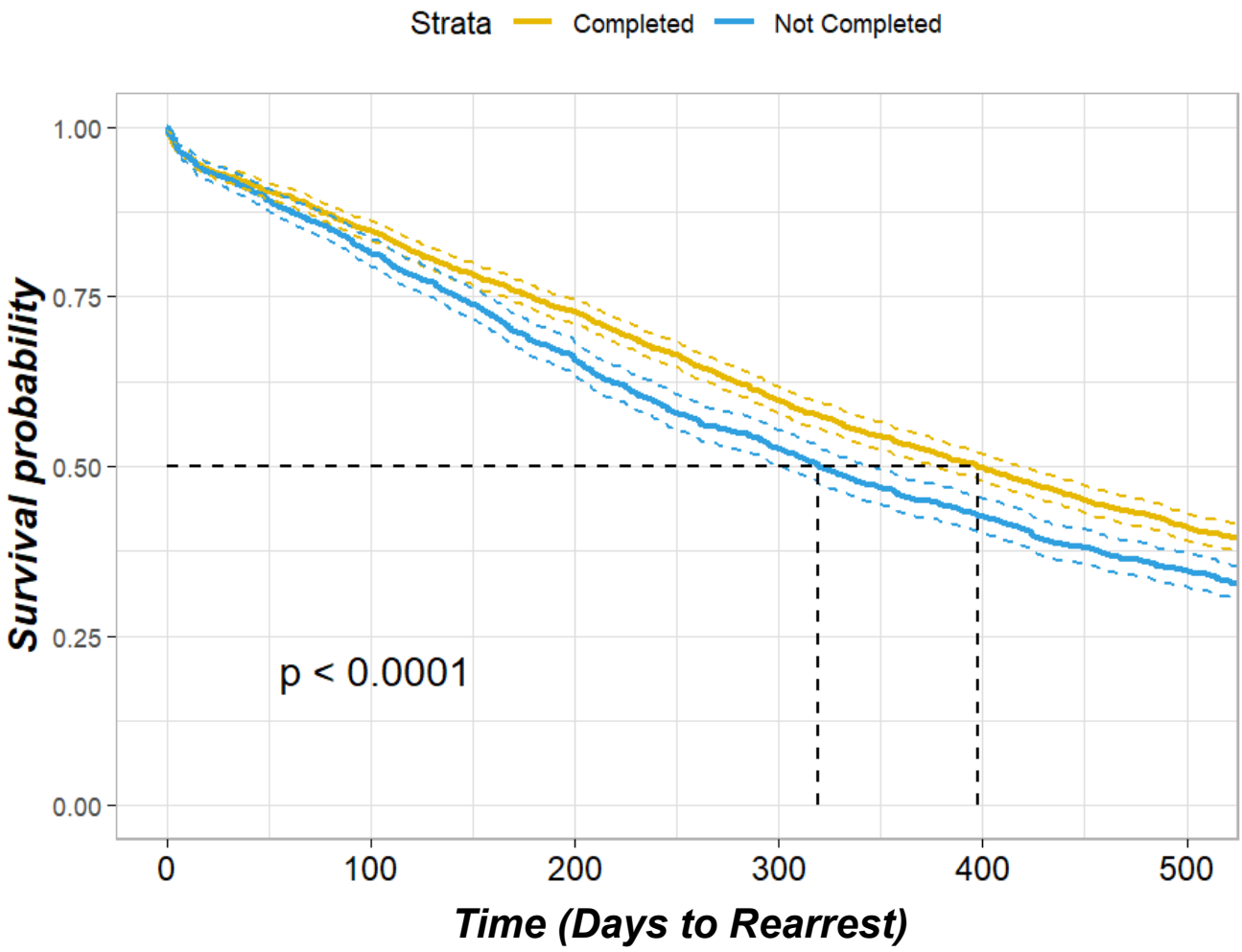
Note. Non-complete is a compilation of those who were expelled, incomplete, and withdrawn. Numbers represent totals. Column headers Yes/No refer to the number of people did/did not reoffend within 12, 24, and 36 months. Tabulations were generated while accounting for the number of days a person was in the community (i.e., if it had not yet been 36 months since someone was released, they were not included in the total numbers if they had not been rearrested since their release; however, if they had been rearrested, they were included in the "Yes" columns).

Survival regression: predicting rearrest from Anger Management completion status

- To examine the effect of Anger Management completion (as compared to non-completion) across time, a Kaplan-Meier survival regression was fit to the data.
- Inmates with a rearrest record were categorized based on whether they completed (n = 2,391) versus did not complete Anger Management (n = 1,400).
- Completion status was evaluated as a predictor of time to arrest—measured as the number of days to first rearrest.
- As indicated in Figure 2, inmates who were in the completed group had a median time to rearrest of 398 days (approximately 1 year and 1 month), 95% CI [377, 418]. This was longer when compared to the non-completion group, which had a median time to rearrest of 320 days (approximately 11 months), 95% CI [301, 345].
- A log-rank test suggested that these survival distributions were significantly different, $\chi^2(1) = 17.5$, $p < .001$.

Figure 2

Kaplan-Meier Survival Distributions: Completed vs. Not Completed by Days to Rearrest



Reincarceration

- Table 18 depicts the number of people reincarcerated at 12-, 24-, and 36-months after release separated by completion status (Completed vs. Expelled vs. Incomplete vs. Withdrawn).

- At 12-, 24-, and 36-months after release, people who completed Anger Management were reincarnated at lower relative rates than people listed as expelled, incomplete, and withdrawn.
- People who were expelled from the program had the highest rates of reincarcerations at 12-, 24-, and 36-months after release.
- Completion status was then dichotomized (Completed vs. Not Completed) to evaluate how Anger Management affected recidivism at 12-, 24-, and 36-months after release.
    - At 12, 24, and 36 months, the difference between people who completed versus did not complete Anger Management was of small clinical significance (*d*s ≤ 0.21).

Table 18

Reincarceration Rates by Completion Status (N = 7,777)

	12 months		24 months		36 months	
	n	%	*n*	%	*n*	%
Completed (*n* = 5,452)	210	4.0	496	9.1	670	12.3
Expelled (*n* = 617)	50	8.1	113	18.3	145	23.5
Incomplete (*n* = 819)	59	7.2	132	16.1	164	20.0
Withdrawn (*n* = 889)	49	5.5	117	13.2	166	18.7

Note. Numbers represent total numbers and percentages. Percentages represent the percentage of a given completion status that was reincarcerated within 12, 24, and 36 months.

The effect of completion status and dosage on average days to reincarceration

- Table 19 shows the average number of days to first reincarceration by completion status (Completed vs. Expelled vs. Incomplete vs. Withdrawn) and the average number of days to first reincarceration by dosage (Low vs. Medium vs. High).
- People who were listed as incomplete had the fewest number of days to incarceration (*M* = 570.06), followed by people who were expelled from the program (*M* = 632.37), people who had withdrawn from the program (*M* = 668.96), and people who completed the program (*M* = 687.48).

  - After dichotomizing completion status (Complete vs. Not Complete), it was determined that the difference in average days to first incarceration between people who completed versus did not complete Anger Management was of small clinical significance (d = 0.15).

- People who received at least 10 hours of Anger Management programing had the largest number of days until first reincarceration (M = 427.54).
  - The differences in the average number of days to first reincarceration between dosages was also of small clinical significance ($\eta \leq .01$).

Table 19

Average Days to Reincarceration by Completion Status and Dosage

Demographic	Mean	*SD*
Completion Status		
Completed	687.48	436.34
Expelled	632.37	421.91
Incomplete	570.06	353.81
Withdrawn	668.96	398.39
Dosage		
Low (0-6 hours)	647.41	411.49
Medium (6-10 hours)	657.84	428.73
High (10+ hours)	704.18	427.54

Note. Data were only available until 7/29/2022; thus, any events occurring after this date are not included in this sample.

- Table 20 depicts the average number of days to first reincarceration for people who completed and did not complete Anger Management grouped by demographic information, sentencing offense, security level, and mental health status.
- When assessed as a continuous variable, age was weakly associated with the number of days to first reincarceration, r = 0.10, $p \leq .001$, R^2 = .01, representing a small effect.
- Males and females who completed Anger Management had a larger number of days, on average, to their first reincarceration when compared to people that did not complete the program.

  - The difference between males (M = 656.49) and females (M = 663.01) represented was not statistically significant and represented a small effect (t(164.94) = 0.18, p = .860, d = 0.02).

- The difference observed in average number of days to first reincarceration for race was non-significant and represented a negligible effect (t(1,279.4) = 0.08, p = .934, d < .01).
- People of Hispanic ethnicity (M = 734.44) had a higher number of days to first rearrest compared to non-Hispanic (M = 648.68), t(270.17) = 2.41 p = .017, d = 0.19.
- Across most sentencing offenses, people who did not complete Anger Management had a fewer number of days, on average, to first reincarceration when compared to people who did complete Anger Management.
- Across all security levels (i.e., low, medium, high, administrative), people who did not complete the Anger Management program had a fewer number of days, on average, to first reincarceration when compared to those who completed the program.
  - The differences in the average number of days to first reincarceration between people at different security levels represented a small effect (F(3, 1,331) = 3.02, p = .029, $\eta^2 \leq 0.01$).
- Completing the Anger Management program was associated with a higher average number of days to first reincarceration for individuals with a Level 1, 2 or 3 mental health status.
  - The effect of mental health status on the average number of days to reincarceration represented a negligible effect, F(3, 1,319) = 2.00, p = .112, η^2 < 0.01.

Table 20

Average Number of Days to Reincarceration: Completion Status by Demographics

Demographic	Completed	Non-Completed
Age		
19-29	709.47 (449.29)	634.07 (407.16)
30-39	704.17 (441.36)	634.37 (379.28)
40-49	637.24 (416.27)	591.63 (406.05)
50-59	647.30 (415.11)	669.84 (384.33)
60+	810.11 (462.40)	335.80 (266.89)
Sex		
Female	700.48 (427.13)	543.54 (293.65)
Male	685.73 (437.83)	630.86 (399.40)
Race		
Asian	667.83 (448.22)	212.00 (86.27)
Black/African American	699.17 (420.12)	689.14 (413.96)
Indigenous	570.74 (399.17)	467.64 (355.10)
White	700.98 (453.43)	590.64 (359.34)
Ethnicity		
Hispanic	784.76 (518.09)	622.38 (395.88)
Non-Hispanic	665.58 (413.03)	625.16 (393.49)
Previous Sentencing Offense		
Drugs	740.73 (463.31)	715.72 (405.24)
Weapons/Explosives	678.12 (389.34)	643.98 (393.32)
Homicide/Aggravated Assault	601.68 (452.05)	541.98 (373.35)
Burglary/Larceny	591.80 (469.71)	611.29 (444.93)
Counterfeit/ Embezzlement	797.22 (287.23)	978.00 (336.58)
Court/Corrections	799.80 (587.42)	432.06 (305.95)
Immigration	945.70 (574.80)	774.29 (421.65)
Fraud/Bribery	605.83 (343.18)	510.76 (283.22)
Sex Offenses	531.23 (395.26)	559.26 (369.74)
Robbery	627.82 (372.68)	580.72 (375.23)

Table 20 (cont.)

Demographic	Completed	Non-Completed
Miscellaneous	514.00 (361.70)	552.45 (479.69)
Security Level		
Low	742.42 (452.97)	618.50 (345.58)
Medium	676.56 (428.19)	658.56 (416.62)
High	667.83 (443.85)	604.22 (388.48)
Administrative	610.15 (378.42)	493.96 (325.42)
Mental Health Status		
Level 1	694.22 (434.31)	640.08 (392.12)
Level 2	602.27 (386.92)	577.02 (408.38)
Level 3	1,033.40 (754.22)	357.33 (193.19)
Level 4	287.00 (N/A)	892.00 (N/A)

Note. Non-complete is a compilation of those who were expelled, incomplete, and withdrawn. Numbers represent means and standard deviations (in parentheses).

The effect of completion status on reincarceration rates

- Table 21 depicts reincarceration rates (Yes vs. No) 36 months following release for people who did and did not complete Anger Management grouped by demographic information, sentencing offense, security level, and mental health status.

Table 21

Reincarceration Rates in 36 Months, Completion Status, and Demographics

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Age				
19-29	153	742	150	389
30-39	308	1,809	202	764
40-49	159	1,405	95	449
50-59	44	620	23	194
60+	6	206	5	54

Table 21 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Sex				
Female	77	546	35	168
Male	587	2,155	437	968
Race				
Asian	5	46	2	13
Black/African American	266	1,098	228	556
Indigenous	67	89	55	43
White	326	1,468	187	524
Ethnicity				
Hispanic	112	647	59	247
Non-Hispanic	552	2,054	413	889
Previous Sentencing Offense				
Drugs	236	1,211	126	434
Weapons/Explosives	228	616	181	343
Homicide/Aggravated Assault	53	117	59	66
Burglary/Larceny	31	146	24	89
Counterfeit/ Embezzlement	7	14	1	7
Court/Corrections	8	40	15	25
Immigration	16	111	15	64
Fraud/Bribery	38	338	24	96
Sex Offenses	56	184	31	71
Robbery	55	121	39	69
Miscellaneous	8	34	9	14
Continuing Criminal Enterprise	0	1	0	0
Security Level				
Low	170	1,097	70	327
Medium	274	975	196	433
High	167	345	184	281

Table 21 (cont.)

Demographic	Completed		Non-Completed	
	Yes	No	Yes	No
Administrative	53	284	22	95
Mental Health Status				
Level 1	585	2,384	378	973
Level 2	71	242	81	128
Level 3	6	40	12	19
Level 4	1	12	1	5

Note. Non-complete is a compilation of those who were expelled, incomplete, and withdrawn. Numbers represent totals. Column headers Yes/No refer to the number of people who were/were not reincarcerated within 36 months. Tabulations were generated while accounting for the number of days a person was in the community (i.e., if it had not yet been 36 months since someone was released, they were not included in the total numbers if they had not been reincarcerated since their release; however, if they had been reincarcerated, they were included in the "Yes" columns).

Future offenses requiring commitment

- Table 22 provides a list of the offenses committed by the 1,136 people who were reincarcerated within 36 months of release.
- Having a drug-related offense (*n* = 342, 30.1%) and an offense involving weapons/explosives (*n* = 377, 31.2%) were the two most common offenses observed during the 36-month follow-up period.
- The next most common offenses included those categorized as homicide/aggravated assault (*n* = 95, 8.4%), sex offenses (*n* = 88, 7.7%), and robbery (*n* = 79, 7.0%).
- The least common offense observed at the 36-month follow-up were those categorized as counterfeit/embezzlement (*n* = 6, 0.5%) and miscellaneous (*n* = 6, 0.5%)

Table 22

Offenses Committed for Which Individuals Were Reincarcerated Within 36 Months (N = 1,136)

Offense Category	Total (*n*)	Percentage (%)
Drugs	342	30.1
Weapons/Explosives	377	31.2
Homicide/Aggravated Assault	95	8.4
Burglary/Larceny	37	3.3
Counterfeit/Embezzlement	6	0.5
Court/Corrections	25	2.2
Immigration	38	3.3
Fraud/Bribery	52	4.6
Sex Offenses	88	7.7
Robbery	79	7.0
Miscellaneous	6	0.5

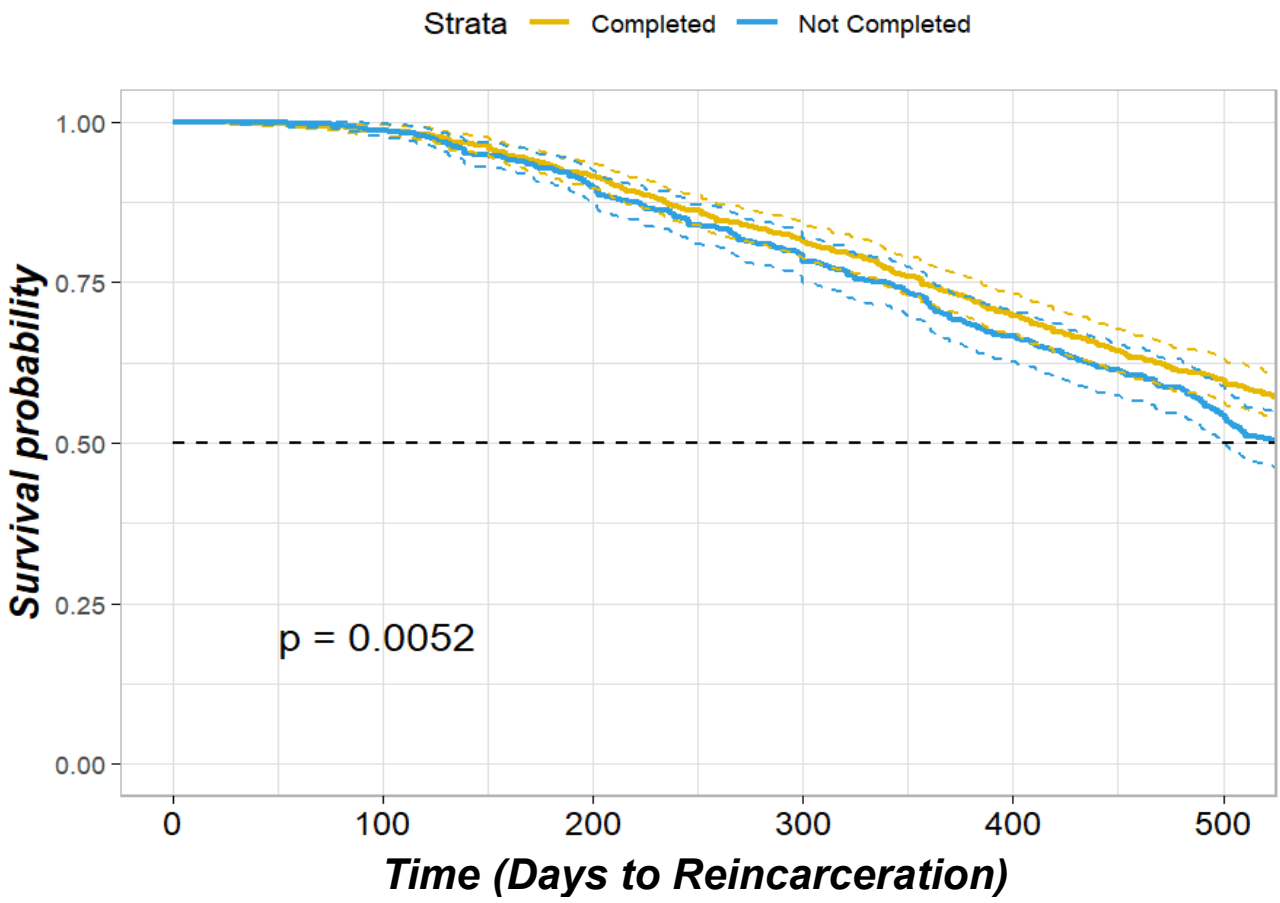
Note. Numbers represent totals and percentages.

Survival regression: predicting reincarcerations from Anger Management completion status

- To examine the effect of Anger Management completion (as compared to non-completion) across time, a Kaplan-Meier survival regression was fit to the data.
- Inmates with a reincarceration were categorized based on whether they completed (*n* = 800) versus did not complete Anger Management (*n* = 535).
- Completion status was evaluated as a predictor of time to reincarceration—measured as the number of days to first reincarceration.
- As indicated in Figure 3, inmates in the completed group had a median time to reincarceration of 600 days (approximately 1 year and 8 months), 95% CI [558, 639]. This was longer when compared to the non-completion group, which had a median time to reincarceration of 527 days (approximately 1 year and 5 months), 95% CI [501, 563].
- A log-rank test suggested that these survival distributions were significantly different, $\chi^2(1) = 7.8$, $p = .005$.

Figure 3

Kaplan-Meier Survival Distributions: Completed vs. Not Completed by Days to Reincarceration



QUALITATIVE ANALYSIS

Purpose

The quantitative analyses presented above represent the first formal evaluation of the BOP Anger Management curriculum. The data associated with these analyses, however, included people who participated in Anger Management programs between 2014 and 2018. In 2021, the Anger Management curriculum was updated from the Substance Abuse and Mental Health Services Administration (SAMHSA) to Anger Management programming provided by The Change Companies. As such, another aim of this evaluation was to assess the effectiveness of the updated Anger Management curriculum. The research team originally intended to perform this

evaluation using a mixed-method approach—administering validated quantitative surveys accompanied by formal qualitative interviews. Due to logistical constraints, primary data collection was not possible during the execution of this contract. Based on feedback from the BOP, the updated Anger Management curriculum was evaluated exclusively via qualitative interviews conducted with inmates and staff at selected BOP facilities. These interviews were intended to provide an overview of the program's strengths and limitations as seen by program participants and program instructors.

Qualitative Data Collection

The research team conducted 17 qualitative interviews and focus groups at nine BOP facilities that varied by region, gender designation, and security level. The goal of these interviews was to further contextualize findings from the quantitative evaluation and assess how the updated curriculum is perceived by staff and inmates.

Both Anger Management program staff and participants were interviewed using an interview guide approved by the Bureau of Prisons Research Review Board (BRRB) prior to data collection. Available program participants were selected by the staff within the facility and up to 10 were selected for each group. Participation was voluntary. There were no consequences for staff or inmates who decided not to participate in the qualitative interviews and all participants could terminate their participation in the study at any time throughout the interview. Each focus group participant provided a signed BRRB-approved informed consent prior to starting the interview. Following the consent process, participants were also asked to complete a brief demographic questionnaire. Then, program participants were asked 5 open-ended questions and program staff were asked 10 open-ended questions as a part of the qualitative interview. Each interview was no longer than 1 hour in duration and took place in-person, in a private room in the facility. Questions focused on aspects of the Anger Management program including strengths, challenges, and overall experiences within the program. Throughout the interview, notes were compiled using handwritten notes, so that recurring themes were identified.

Sample

- As shown in Table 23, nine staff members across nine BOP facilities agreed and provided an informed consent to participate in a focus group about the Anger Management program.

- Most BOP staff who participated in the focus groups were between 31 and 40 years old (*n* = 5, 55.6%), all were female (*n* = 9, 100%), primarily White (*n* = 6, 66.7%) and non-Hispanic (n = 7, 77.8%).

- Six participants (66.7%) held a doctoral degree and three (33.3%) had completed a master's degree.

Table 23

Staff Demographic Information for Qualitative Analyses (N = 9)

Demographic	Total (*n*)	Percent (%)
Age		
30 or younger	2	22.2
31 to 40	5	55.6
41 to 50	2	22.2
51 or older	0	0.0
Sex		
Female	9	100.0
Male	0	0.0
Race		
Asian	1	11.1
Black/African American	2	22.2
Indigenous	0	0.0
White	6	66.7
Ethnicity		
Hispanic	2	22.2
Non-Hispanic	7	77.8
Security Level		
Low	2	22.2
Medium	3	33.3
High	1	11.1
Administrative/Camp	3	33.3
Education		
Master's degree	3	33.3

Table 23 (cont.)

Demographic	Total (*n*)	Percent (%)
Doctoral degree	6	66.7
Current Role		
DAP Coordinator	1	11.1
Psychologist	5	55.6
Specialty Treatment	3	33.3
Years Worked for BOP		
Less than one	2	22.2
1 to 2	1	11.1
3-5	4	44.4
6-10	0	0.0
More than 10	2	22.2
Overall Caseload		
0-10	4	44.4
10-20	0	0.0
20-30	2	22.2
30+	1	11.1
Do not have a caseload	2	22.2

Note. Numbers represent total numbers and percentages.

- Another 45 inmates provided an informed consent to participate in a qualitative interview about the Anger Management program (see Table 24).
- The majority of participants were between the ages of 31 and 50 (n = 29, 64.4%), all were male, and about two-thirds (*n* = 32, 71.2%) were non-Hispanic.
- Nineteen participants (42.2%) were interviewed from a medium security facility whereas twenty-six participants (57.8%) were interviewed at either a low security facility, administrative facility, or medical camp.

Table 24

Inmate Demographic Information for Qualitative Analyses (N = 45)

Demographic	Total (*n*)	Percent (%)
Age		
30 or younger	5	11.1
31 to 40	16	35.6
41 to 50	13	28.9
51 or older	9	20.0
System Missing	2	4.4
Sex		
Female	0	0.0
Male	45	100.0
Race		
Asian	1	2.2
Native Hawaiian or Other Pacific Islander	1	2.2
Black/African American	12	26.7
White	13	28.9
More than one race	4	8.9
Another race not listed	5	11.1
Prefer not to answer	1	2.2
System Missing	8	17.8
Ethnicity		
Hispanic	11	24.4
Non-Hispanic	32	71.2
System Missing	2	4.4
Security Level		
Low	13	28.9
Medium	19	42.2
High	13	28.9
Administrative/Camp	0	0

Note. Numbers represent total numbers and percentages. System missing indicates the question was skipped.

Feedback Approach

Both participants and staff shared their perceptions of the Anger Management program during qualitative interviews. These perceptions were categorized into strengths and areas for improvement—which was based on the ease of interpreting the results and the wording of the interview questions. As interviews were not recorded/transcribed, no direct quotes are reported in the results. Rather, the results below provide summaries of themes that were frequently discussed during qualitative interviews. Although nested under strengths and areas of improvement, the research team used an inductive approach to quantify the themes. Once themes were identified, brief summaries were created using the collection of data collected across the various BOP facilities. The themes presented below represent those most commonly discussed during the qualitative interviews and themes were often consistent among both staff and participants.

QUALITATIVE RESULTS

Strengths

Staff and participants reported that they perceived the Anger Management program to be helpful in identifying and managing one's anger. Participants shared that the program allowed them to identify different emotions that they previously would have categorized as "anger," and by doing this could react more rationally to these emotions. They found the Anger Management program to be a therapeutic experience in which they were able to share their own experiences, but also learn from the experiences of others. Staff echoed these positive sentiments, sharing that the program is well-rounded and its foundation in psychoeducation gives participants the knowledge and tools to manage anger in their daily lives. The primary strengths identified by both participants and staff include the hands-on curriculum and the program's group setting.

Hands-on curriculum

Participants and staff both shared that the hands-on nature of the program allowed participants to understand their anger on a deeper level and utilize tools from the program to manage this anger. The curriculum teaches participants about the physical cues of anger and identifying events that may trigger anger, then provides them with the tools to manage the situation. Some of the cognitive tools that participants found most useful include:

- Anger Iceberg

- Anger Thermometer
- Rational Self Analysis (RSAs)
- Criminal Thinking Errors
- Anger, Belief, Consequences (ABCs)

Staff shared that the hands-on activities that they use such as role playing and experiential exercises allow participants to practice managing their reaction using physical techniques (i.e., breathing exercises) and cognitive tools.

Group setting

Participants reported that programming in a group setting created a safe space where they could share their experiences and learn from the experiences of others. Participants shared that listening to others' experiences taught them ways in which they could react differently and helped them prepare for how they would react to a similar situation in the future. While some participants felt hesitant to participate initially, they noted that they felt more comfortable after building rapport with staff and other participants. Staff also shared that this solicited participation from individuals that had not "bought in" to the program initially. To accelerate the rapport building process, one staff member shared that they conducted groups within a singular housing unit so that participants had a pre-established relationship with each other.

Potential Areas for Improvement

While participants and staff both overwhelmingly reported that the Anger Management program has a positive impact, they also provided feedback on how the program could be improved. Participants often shared frustrations with the duration and frequency of the programming, noting that infrequent programming inhibited their motivation to participate in the program. They also shared that that while the program was beneficial, participating earlier in their sentence could improve their ability to navigate the prison setting. Staff also shared the need for more resources, including personnel, space, and more evaluative information to assess the benefit of the program.

Interruptions

Participants noted that interruptions to programming inhibited their motivation to participate in the Anger Management program. They reported that facility lock downs often lead to sessions being canceled, which leads to a lack of continuity between the sessions. These sentiments varied by security level as well, with participants at higher security facilities reporting more frequent programming interruptions due to lock downs. Participants shared that these delays could also result in participants leaving the facility prior to completing the program. Some suggested that having more frequent classes (i.e., twice per week instead of once) could lessen the effects of interruptions due to lock downs. Staff shared similar concerns regarding lock downs. One staff member shared that finding a way to continue programming during lockdowns could be beneficial. Selecting program members by housing unit may offer a solution to reducing lock down-related interruptions in addition to increasing participant rapport.

Access

Participants expressed frustration with the ability to access the programming in a timely manner. Some shared that having this programming upon arrival to the facility would have allowed them to better navigate their anger and improve their conflict resolution skills within the prison setting. Staff shared that they often have long waitlists for the Anger Management program and, by using release date to identify program participants, many individuals wait years for enrollment. Staff also report that many individuals are incentivized to participate for FSA credits. While this increased interest and involvement in programming is promising, it also creates a logistical barrier in which it is difficult to provide adequate programming to such a large number of individuals. This barrier was noted more frequently in lower security facilities due limited ability to apply FSA credits in high security facilities. Because programming is based on release date, participants also found that they are enrolled in a number of programs in a short period of time. This can create scheduling barriers that prevent them from participating in overlapping programs.

Resources

There are a number of resources that staff and participants believe would increase the accessibility and effectiveness of the program. First, both staff and participants expressed the need for more psychology staff to facilitate groups. This would allow more groups to run concurrently, and therefore increase participation and decrease waitlists. Additionally, many staff

reported a need for more programming space within the facility. Staff expressed that there is minimal feedback provided on the program itself. They shared that a "successful" participant is defined by the BOP as one that attends all Anger Management sessions, but information outside of that parameter is limited. Establishing a method for assessing participant progress and satisfaction within the program could provide useful feedback on the program's effectiveness.

LIMITATIONS

There are limitations associated with this report that should be considered when interpreting the results. The quantitative data analyzed for this report included data from inmates who entered the Anger Management program between 2014 to 2018. Therefore, the results of the quantitative analyses do not address the effect of the current Anger Management curriculum.

While trends suggested that people who completed the Anger Management program (as compared with those who did not) had a lower number of infractions and lower rates of recidivism, it remains unclear how much of this effect can be attributed to the Anger Management program itself rather than another variable not assessed in this report (e.g., selection bias). Similarly, most effect sizes reported in the quantitative results were determined to be of low clinical significance. It should be noted, however, that this does not necessarily imply that the Anger Management program was ineffective. Rather, it could suggest that the Anger Management program may have been more effective at evoking changes in more proximal outcomes (e.g., frustration, anger, hostility) than the more distal outcomes (i.e., infractions, recidivism) evaluated throughout this report. This interpretation of the data would indicate that the observed effect of Anger Management on infractions and recidivism would be larger when accounting for these additional, more proximal outcomes.

When assessing the effect of Anger Management on infractions and recidivism, comparison groups were created using people who completed versus did not complete the programing. Dichotomizing completion status was deemed necessary given the relatively low number of people that were classified as "withdrawn," "incomplete," or "expelled." Additional analyses were then performed to evaluate whether inmates' demographic characteristics (e.g., sex, race, ethnicity), security level, and mental health status were associated with program completion. The results showed that these variables were minimally correlated with completing Anger Management. However, it is still possible that there existed fundamental differences between those who completed and did not complete Anger Management that were not available for this

report (e.g., motivation, criminal history, etc.). This complicates the interpretation of the infraction and recidivism results as these differences could have also increased or decreased someone's likelihood of committing an infraction or recidivating.

The Anger Management program was evaluated in the quantitative section using infractions, rearrests, and return to BOP custody as the primary outcome variable. Indeed, assessing behavioral outcomes is generally considered more favorable when compared to the use of self-report measures. However, an issue with relying exclusively on administrative data to define infractions and recidivism is reporting bias. Put another way, this methodology implicitly assumes that all possible infractions, rearrests, and reincarcerations were recorded. As this is improbable due to human error, coding errors, and variations in how some jurisdiction report arrests, the number of infractions and recidivism rates reported in the quantitative section could be underestimated when compared to their "true" values. Relatedly, most of the sample was listed as not having committed an infraction before or after Anger Management. The lack of variability in the number of infractions committed by the entire sample reduces the chances of being able to observe a noteworthy difference between people who completed versus did not complete Anger Management. It should also be noted that just because someone does not have a listed infraction does not necessarily indicate that that person did not commit an unrecorded infraction while in custody. The same can be said for rearrests and return to federal custody.

There are also noteworthy limitations associated with the qualitative findings presented in this report. For example, the sample for the staff interviews was relatively small (n = 9) and consisted of exclusively white women. It is entirely possible that there are other noteworthy strengths and limitations of Anger Management were not expressed by these staff, and it should be noted that the qualitative results do not necessarily represent the thoughts and opinions of all BOP staff. Additionally, to receive feedback on the Anger Management programming, a convenience sample of staff and inmates who volunteered to participate in a research study were recruited. This sampling approach could have biased this report's results in that people who were more likely to volunteer to provide their feedback about the program may have been those individuals with more positive experiences of the program. Additionally, due to logistical constraints, the research team was not able to record qualitative interviews. Consequently, the research team relied upon handwritten notes that were recorded while participants responded to the interview questions. The research team's inability to record interviews could raise some concerns as to the accuracy of participants' quotes and presents the possibility that important information related to this

evaluation could have been missed. Additional research, including both prospective quantitative surveys and more in-depth qualitative interviews, will likely be required to more formally evaluate the newer Anger Management curriculum.

CONCLUSION

The BOP Anger Management program is a key component of prison programming designed to target reductions in violent criminal behavior, self-harm, conflict in custodial settings, and failure to adjust to community supervision post-release. The current report is the first empirical evaluation of the Anger Management program provided to inmates incarcerated in federal prisons operated by the BOP. In response to evaluation requirements set forth in the First Step Act (FSA), this evaluation study showed that most people who enrolled in the program from 2014-2018 completed the program curriculum. Furthermore, people who were listed as completing the program had a fewer number of infractions, as well as a longer time to rearrest and reincarceration when compared to people who did not complete the program. Future research can help determine specific aspects of the Anger Management programming that uniquely contribute to the program's positive impact on proximal as well as distal outcomes.

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