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Community Mediation Maryland

Reentry Mediation Recidivism Analysis

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Table of Contents

Table of Tables

Executive Summary

The CMM Reentry Mediation model responds to a need identified through research and through the experiences of staff and volunteers who have worked in prisons and with people returning from prison, or have family members incarcerated and experience the reentry process first-hand. Reentry Mediation supports inmates and their families or other support people to discuss their past experiences, to build understanding, and to jointly plan for reentry into the family structure and community before the inmate is released.

The Abell Foundation in Baltimore City Maryland funded this analysis of the effect of prisoner reentry mediation on recidivism. This study examines 123 individuals who received mediation (the treatment group) to 497 that requested and were eligible to participate, but did not receive mediation (the comparison group) between February 2009 and June 2012. These groups are compared to discover whether there were significant differences between the groups.

The method of analysis used to assess post-release outcomes is logistic regression, which provides a predicted probability of the outcomes (measured by arrest, conviction and incarceration) and is calculated based on all of the factors in the regression model. Cox Regression survival analysis was also used to compare the treatment and comparison groups in their time to failure (defined here as a post-release arrest or conviction). The survival analysis seeks to determine whether those who did not mediate "failed" (e.g., were rearrested) sooner than those who did mediate.

Key findings of this study are as follows:

❖ Demographic and criminal history differences between the treatment group and comparison group are few; those who participated in mediation are generally of the same age and gender, have similar criminal backgrounds based on both self-reported data at intake (e.g., age at first involvement in crime) and State of Maryland Criminal Justice Information System (CJIS) data; while this does not obviate concerns surrounding selection bias, the similarities between the treatment and comparison group build a strong case of comparability between the two groups;

❖ There were differences among the treatment and comparison groups on several questions concerning quality of the relationship with the person the inmate participant wishes to mediate with (referred to as the "outside participant"). Those who mediated were more likely to view the outside participant as playing a more positive role in their life, expressed a higher degree of happiness with this person, and said they confided in each other more often than those who did not mediate. However, these factors were not significant on any measures of recidivism;

❖ One question was predictive of both participating in mediation and arrest post-release was "I feel I have no control over this relationship". Participants are asked their level of agreement with this statement on a scale of 1 to 5 (set up so that higher values indicating a more positive response) or a greater level of empowerment in their relationship with the other participant. Inside participants who felt they had greater control in the relationship were significantly more likely to go to mediation *and* were also more likely to be arrested

post-release. Comparisons by race and gender on this measure indicate non-whites reporting higher degree of control compared to white subjects; there were no differences by gender. While we theorize this question measures positive feelings of empowerment in a relationship, perhaps this measures some another attribute (e.g., overconfidence) that may operate differentially for those who mediate versus those who do not.

❖ Participation in reentry mediation has a significant impact on the likelihood that an individual will be arrested post-release. After controlling for key factors that may otherwise explain this finding (e.g., length of criminal career, gender, age, race, days since release), the predicted *probability*[1] of arrest for those who participate in mediation is 21% vs. 31% for those who do not participate in mediation;

❖ The number of sessions is also a significant factor – with each additional mediation session, the probability of arrest is reduced by 6%;

❖ There was no impact of mediation on post-release conviction or incarceration once crucial factors were controlled in the model, which may be related to the small sample size and the low rates of conviction overall during the time period examined; and

❖ The Cox Regression survival analysis reveals that mediation reduces the hazard (or *risk* of arrest) by 37% compared to those who do not mediate. Each additional mediation session reduces the risk of arrest by 23% compared to those who did not mediate.

The key to understanding the saliency of these findings is that the greatest limitation of mediation may also be its greatest strength – it is a short-term "intervention". In fact, the majority of the 123 mediation participants had but one 2 hour session. The impact of mediation is believed to be indirect and akin to a critical course correction to turn an individual away from a criminal trajectory through the improved relationship with family and support persons and adherence to agreements and plans negotiated during mediation.

These results are very promising. However, the number of subjects who both mediated and were rearrested were few compared to those in the comparison group, thus these results should be viewed cautiously until a larger treatment group can be included in future recidivism analysis.

The next step in the research plan is to couple these results with follow-up surveys which more directly assess the impact of mediation on the relationship. CMM continues to engage participants in the service, and we hope to conduct a larger scale study utilizing quasi-experimental statistical controls (propensity score matching) on a second comparison group randomly selected from a cohort released in a similar time period. Nonetheless, the current study provides support for the hypothesis that mediation can be effective at strengthening relationships, and those relationships, in turn, support offenders from continued engagement in criminal activities post-release. Mediation is an innovative tool that addresses a critical reentry factor and should be incorporated in a comprehensive and integrated reentry strategy.

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[1] The probability of arrest is not the same as the hazard or risk of arrest. The **probability** of arrest is based on the cumulative, or the overall probability of a situation occurring. The **risk** of arrest considers the timing of the arrest, or the relative rate of this person failing given how long they have survived.

Introduction

The criminal justice literature highlights the importance of strong pro-social relationships to support successful reentry and to reduce recidivism. Reentry mediation responds to this need by providing an opportunity for an inmate and family members or other support people to meet, with the help of a non-judgmental mediator, before release, to have an open, honest, and often difficult dialogue to prepare for the transition back into the community. Sometimes there is lingering conflict from before the incarceration. Sometimes there is resentment, anger, and shame as a result of the charge or things which took place during the incarceration. Reentry mediation creates a space for everyone involved to talk about their experiences, be heard by each other, and to establish a plan on how to move forward productively before the individual is released. For some families, there is an understanding that an inmate will return home, but there may be anxiety about the different expectations everyone brings to the transition. Reentry mediation provides an opportunity to manage divergent expectations for all participants through a discussion of issues and resolution of, or prevention of, conflicts.

By rebuilding relationships between inmates and family or support people in the community, Prisoner Reentry Mediation taps into the resources indigenous to the community, strengthens these connections, and allows for collaborative transition planning, involving the inmate and their family members.

CMM and member centers have been providing prisoner reentry mediation services to inmates preparing for release and their family members or support people for five years. The first two years, the program was operating as a pilot project. In the fall of 2008, CMM signed a Memorandum of Understanding with the Department of Corrections, paving the way for expansion of the pilot project. Soon after that, CMM began work with Choice Research Associates to develop a system which would allow for both short term program evaluation and long term analysis of the effect of reentry mediation on recidivism. This system was developed using the Program Development Evaluation (PDE) process which emphasizes collaboration between the practitioner and researcher, and which sets out measurable goals, outcomes, and process standards to ensure the program is implemented as intended.

In February 2009, CMM centers began collecting comprehensive data on all inmates who requested mediation, with the intention of preparing for the eventual recidivism study. This data was collected on all those who requested the service.[2] Many of these individuals were not able to receive the service because family members could not be reached, family members declined the service, inmates were released or transferred earlier than expected, or because of institutional issues. Those who did not receive the service form the comparison group because they have the same motivation as those who requested the service, they have agreed to participate in the study through signed consent, and we have extensive demographic and personal information about them. Reentry mediation is a new and innovative process and Maryland has developed the national model for such a program. While reentry mediation responds to challenges identified in the criminal justice literature, because the

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[2] All protocols and procedures were approved by the University of Baltimore Institutional Review Board in accordance with Federal regulations to protect the rights and welfare of human research subjects recruited to participate in research activities.

service is so new, there has been no evaluation directly connecting mediation to lowered recidivism, until now.

Methodology and Sample Descriptives

The Abell Foundation in Baltimore City Maryland funded this analysis of the effect of prisoner reentry mediation on recidivism. This study examines a total of 620 individuals -- 123 individuals who received mediation (the treatment group) and 497 who requested and were eligible to participate, but did not receive mediation (the comparison group) between February 2009 and June 2012. These groups are compared to discover whether there were significant differences between the groups.

The method of analysis used to assess post-release outcomes is logistic regression, which provides a predicted probability of the outcome (recidivism) which is calculated based on all of the factors in the regression model. A second step was to conduct Cox regression survival analysis, which compares the treatment and comparison groups in their time to failure (a post-release event such as an arrest or conviction). Next steps will be discussed and a brief summary will conclude this report.

Study Participants - Demographics

Of the 881 names submitted to the Department of Public Safety and Correctional Services (DPSCS) for a Criminal Justice Information System (CJIS) criminal history data extract, 637 individuals had a criminal record and were matched.[3] After excluding 16 individuals who were not been eligible to receive services and 1 because they were not to be released until 2030, this left 620 individuals in our data for the analysis. Table 1 provides descriptive information about those in the study sample based on data provided by the inside participant at intake.

Of the 620 study participants (see Table 1), 20% mediated at least once; within a range of 1 to 5 times and on average 1.56 times.

These inside participants (also referred to as P1) were on average 35 years old, (ranging in age from 17 to 65), the majority is male (84%), African American (77%), Caucasian (19%) and of other racial backgrounds (4%). Approximately half of the inside participants were single/never married (52%), 17% were married/cohabitating and 76% have children. Among those who have children, they had on average 2.6 children, with at least one child under 18 years old.

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[3] Of the 881 names submitted, several subjects were submitted multiple times to account for variations in names and dates of birth. Comparisons were conducted between those found in the CJIS data and reviewed (N=635) and those not found (N=181) on a variety of factors including whether they mediated, age at intake, gender, race, parental status, whether this was their first incarceration, whether convicted more than two times, quality of the relationship (e.g., degree to which the outside participant plays a positive role in the inmate's life, degree of happiness with the outside participant, feelings of control in the relationship, how often they confide in one another) and the statement "conflict can be dealt with productively". None of these factors were significantly different between those whose criminal history data was found in the CJIS data extract and those whose criminal history was not found.

Table 1: Participant Demographics Descriptives N=620

	N	Freq.	Percent	Range	Mean (SD)
Study Participants with CJIS Data	620				
Comparison Group (Did Not Mediate)		497	80%		
Treatment Group (Mediated)		123	20%		
Number of Mediation Sessions	123			1 to 5	1.57 (.91)
Age at Intake to Facility	597			17 to 65	34.63 (9.8)
Gender – Male	620		84%	0 to 1	.84 (.37)
Race	617				
African American		474	77%		
White		119	19%		
Hispanic/Latino		4	<1%		
Native American		1	<1%		
Other/Multiracial		19	2%		
Martial Status	595				
Single/Never Married		308	52%		
Committed but Not Married		98	17%		
Cohabitating		14	2%		
Married		92	15%		
Sep./Divorce/Widow		83	14%		
How many have Children?	588	442	75%	0 to 1	.75 (.43)
Average Number of Children	439			1 to 12	2.64 (1.8)
Number of Children Under 18*	421			0 to 8	1.82 (1.5)

(N=Number of those with data available to assess)
*Not asked prior to July/August 2009

Table 2 provides additional information gathered at intake that relates to quality of the relationship with those the inside participants (referred to as P1) wish to mediate with[4] and their attitude toward conflict. Note that a higher value on these measures indicates a stronger or more positive relationship.

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[4] In cases where the inside participant requests to mediate with more than one outside party, the case manager asks the inside participant key questions about the quality of their relationship with all the outside parties they wish to mediate with. Table 2 captures P1's responses about the **first** (P2) person they identified. For the 123 cases that mediated in this report, 94% of P1s mediated either solely with P2 or with P2 and another outside party (P3, P4, etc). Given the few cases involved where P1 mediated with someone other than P2, we felt the ratings provided by P1 about P2 were representative of their feelings about the other outside parties (P3, P4, etc), and thus we utilized these scores which focus on the relationship between P1 and P2.

These questions assess whether the outside participant (referred to as P2) plays a positive role in their life (on a scale of 1 to 5, with 5 indicating strong agreement), the level of happiness (on a scale of 1 to 7, with 7 being extremely happy), how often they confide in one another (on a scale of 1 to 4 with 4 indicating "almost always", and 1 indicating "almost never" confiding in one another). The last relationship related question is "I feel like I have no control over what happens in my relationship" [with the other mediation party]. Participants are asked their level of agreement with this statement on a scale of 1 to 5 (set up so that higher values indicating a more positive response or a greater level of empowerment in their relationship with the other participant). The final question is geared toward measuring how the individual perceives conflict with the statement "in general, conflict can usually be dealt with productively". This is scored from 1 to 5, with 5 indicating the participant strongly agrees with this statement, and 1 indicates they strongly disagree.

As evidenced in Table 2, inside participants agree or strongly agree (reporting an average score of 4.24) that the outside participant plays a positive role in their life, and they are generally happy with the outside participant (with an average score of 4.81). From the inside participant's perspective, they are somewhat more likely to confide in the outside participant (average score of 2.61 indicating they confide between sometimes and often in the outside participant) than they believe the outside participant confides in them (reporting a score of 2.47). In terms of feeling in comparison of their relationship with the outside participant, and they report an average score of 3.30, indicating a range between neither agree nor disagree to disagree. Finally, inside participants generally feel positive (score of 3.96) that conflict can be dealt with productively [5]

Table 2: Participant Relationship Descriptives N=620

P1: My Relationship with P2 at Intake *Higher Value = Stronger/More Positive Relationship*	N	Range	Mean (SD)
P2 plays a positive role in my life[+]	598	1 to 5	4.24 (1.04)
Degree of happiness with P2[++]	597	1 to 7	4.81 (1.88)
How often do you confide in P2?[+++]	598	1 to 4	2.61 (1.18)
How Often does P2 confide in you?[+++]	597	1 to 4	2.47 (1.19)
I feel have no control over my relationship with P2[+](R)	596	1 to 5	3.30 (1.34)
Conflict can be dealt with productively	588	1 to 5	3.97 (.93)

[+]Scale of 1 to 5, with 5 indicating strong agreement
[++]Scale 1 to 7 where 7 = extremely happy
[+++]Scale of 1 to 4 with 4 ="almost always" and 1 = "almost never"
(R) Reverse Coded so that higher values = feeling more control over relationship

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[5] The question was examined separately by gender and race. Women were significantly less likely to view dealing with conflict positively (reporting scores of 3.73 compared to men at 4.02). White subjects were also less likely to view conflict productively, reporting 3.73 while non-white (predominately African Americans) view conflict more positively with scores of 4.03. (Both gender and race differences are significant at p<.05).

Study Participants – Criminal History

Table 3 provides a number of measures of criminal history, based on two sources. The first is the information provided by the inside participant during intake; the second was calculated or summarized from the CJIS criminal history data. Among the inside participants who completed an intake form, 21% were experiencing their first incarceration, 68% had been convicted two or more times, and most (54%) had been incarcerated 12 months or less, while 26% had been incarcerated from 1 to 3 years, 10% 3 to 5 years, and the remaining 10% over 5 years. These participants also reported that on average their first involvement in crime (whether or not they were caught or arrested) was 15 years old, ranging from 4 to 62.

The remaining information was gathered from CJIS. At the time of the CJIS data run, December 20, 2012, these participants had been released[6] on average 16.5 months, ranging from 4.7 to 48 months; (in days, they averaged 496 days since release within a range from 141 to 1,443 days). Among those who applied to participate in mediation, the most common type of offender is a person offender (70%), followed by drug (21%), property (6%), and sex offender (3%). Note that this offender class is based on the most serious conviction over their criminal career and not on the most frequent type of crime or most recent offense committed.[7] The length of criminal career was based on the first date of arrest recorded in CJIS, and spanned a range from as little as 28 days to over 40 years and on average, the study participants had been criminally involved over 14 years.

The prior arrest history reflects this longevity. Study participants had an average of 12 arrests (ranging from 1 to 60), 6 prior convictions and an average conviction rate of 57% overall. Among those convictions, approximately 34% were for felony level offenses and the maximum seriousness category averaged 4.0, translating into a level IV offense (ranging from the most serious category of level I to least serious, level VII).[8] Level IV offenses include arson, manufacture and/or distribution of controlled dangerous substances, second and third degree burglary, escape from confinement, and robbery. Table 3 also provides arrest information broken down to provide charge data. Study subjects had an average of 35 charges (ranging from 1 to 139 charges) in their criminal career, with 9 charges resulting in a conviction (ranging from 0 to 38 charges convicted), thus 27% of all charges

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[6] Unfortunately, dates of release from incarceration are not available in the CJIS criminal history. As a result, the date of release is a proxy measure based on information provided in the intake process. First, the inmate reports their expected date of release at intake; if that date was missing from our data, the mediation date was used (for those with multiple sessions, the most recent mediation date was chosen), then the intake date, followed by the service sign-up date. Due to the lack of release dates in the CJIS data, we also cannot definitively correct for "on the street/at-risk time" – periods when the participant was not incarcerated either pre- or post-the current incarceration event examined, and were at greater risk for committing crime and arrest. In the present study, as we examined the timing to the first event this limitation is less of a concern than it would be had we explored subsequent arrest events.

[7] In deciding which was the most serious conviction, person offenses were privileged over drug and property types of offenses. For the purpose of offense seriousness, DUI/DWI offenses, eluding police, etc., although designated as traffic for the offense type, were still considered as person offenses and thus were privileged over property, drug and other types of offenses. Thereafter, seriousness was determined based on the specific charges in accordance with the State of Maryland criminal law statutes.

[8] Each charge was coded by offense seriousness category from I (most serious) to VII (least serious) (which was reverse coded so that a higher value indicated a more serious crime) in accordance with Maryland State statutes. The source for statute classification information was from the Maryland State Commission on Criminal Sentencing Guidelines Manual Guidelines Offense Table Appendix A, updated February 2006, with updates from the 2012 manual.

resulted in a conviction. Among these charges, 29% were for felony level offenses, and the most serious charge category averaged 4.8 – close to a level III offense. Level III offenses include first degree assault, first degree burglary, robbery with a dangerous weapon, and manufacture and/or distribution of narcotics.

A breakdown by different types of offenses includes both the number of charges overall, within a range, and the number of those charges that lead to a conviction. Note that the offenses listed include Person crimes (including weapons charges) and sex crimes (including prostitution). Given that weapons (due to their potential lethality) add a level of seriousness to the offense, and that those who engage in prostitution have a fair number of charges among a small group (N=19), both weapons and prostitution charges and convictions are provided separately so to present a balanced view.

The final section of Table 3 is incarceration history. In this study, 95% of the 620 participants had been incarcerated for one or more days during their career.[9] They've experienced from 1 to 25 periods of incarceration, on average serving close to 5 times. The total time imposed over the course of the participant's career ranges from 0 days to 151 years, with an average time imposed of 15 years. The average sentence per incarceration period is 5 months, but ranges up to 7 years.

Table 3: Participant Criminal History Descriptives N=620

	N	Freq.	Percent	Range	Mean (SD)
Intake Data					
Age at First Involvement with Crime	591			4 to 62	15.47 (6.3)
First Time Incarcerated	594		21%	0 to 1	.21 (.40)
Convicted More than 2 Times	597		68%	0 to 1	.68 (.47)
Length of Current Stay	595				
Up to 1 year or Less		318	54%		
1 to up to 3 years		156	26%		
3 to up to 5 years		59	10%		
More than 5 years		62	10%		
CJIS Data					
Time Since Release					
Months Since Release	620			4.7 to 48.1	16.5 (8.7)
Days Since Release	620			141 to 1443	496 (260)
Offender Class (Serious Conviction)	618				
Person		436	70%		
Sex		16	3%		
Drug		128	21%		
Property		38	6%		

[9] Calculated from sentencing data by subtracting the sentence suspended from sentence imposed. However, there is no ability to discern in the CJIS data those sentences that were served consecutively from those served concurrently, thus these figures likely overestimate the amount of time actually served.

	N	Freq.	Percent	Range	Mean (SD)
Criminal Career					
Length of Career (in months)[10]	619			<1 to 526.3	178.2 (108.2)
Length of Career (in days)	619			28 to 16009	5421 (3292)
Arrest, Charge, and Conviction History					
Total Number of Prior Arrests	619			1 to 60	12.5 (10.2)
Total Number Prior Convictions - Arrest	619			0 to 29	6.3 (5.0)
Prior Arrest Conviction Rate	619			0 to 1	.57 (.23)
Proportion of Prior Felony Convictions	609			0 to 1	.34 (.30)
Most Serious Category - Convictions	609			1 to 7	4.0 (1.13)
Total Number of Prior Charges	619			1 to 139	34.9 (23.8)
Total Number Prior Convictions - Charges	619			0 to 38	8.9 (6.9)
Average Charges Per Prior Arrest	619			1 to 35	3.7 (3.0)
Prior Charges Conviction Rate	619			0 to 1	.27 (.15)
Proportion of Prior Felony Charges	618			0 to 1	.29 (.17)
Most Serious Category - Charges	618			1 to 7	4.8 (1.13)
Charge & Conviction History By Type of Offense					
Person Offenses (Including Weapons)					
Total Number of Charges	498			2 to 89	12.4 (10.5)
Total Number of Convictions	496			0 to 12	1.9 (2.3)
Weapons Only Offenses					
Total Number of Charges	285			2 to 25	5.6 (4.3)
Total Number of Convictions	285			0 to 5	.48 (1.0)
Sexual Offenses (Including Prostitution)					
Total Number of Charges	50			2 to 18	5.4 (3.9)
Total Number of Convictions	50			0 to 12	2.2 (2.9)
Prostitution Only Offenses					
Total Number of Charges	19			2 to 20	6.6 (5.0)
Total Number of Convictions	19			0 to 12	4.2 (3.6)
Drug Offenses					
Total Number of Charges	467			2 to 66	14.7 (11.7)
Total Number of Convictions	466			0 to 22	4.2 (4.0)
Property Offenses					
Total Number of Charges	479			2 to 133	13.0 (15.5)
Total Number of Convictions	473			0 to 24	2.5 (3.9)

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[10] Length of criminal career was calculated based on the first date of arrest in the CJIS data to the most recent event. This most recent event could be the proxy release date, a post-release arrest, or in those cases where the CJIS criminal history file did not reflect any event prior to the release date, the date of first arrest was substituted with the date of release. This decision results in more conservative estimates of career length (e.g., reporting a shorter career) but it is better to underestimate (as we do frequently given the "dark-side" of crime statistics – offenders commit crimes that are not reported or discovered by authorities), rather than overstate, a criminal career.

	N	Freq.	Percent	Range	Mean (SD)
Traffic Offenses					
Total Number of Charges	65			2 to 14	4.0 (3.0)
Total Number of Convictions	65			0 to 2	.12 (.48)
Total "Other" Charges					
Total Number of Charges	41			2 to 10	3.0 (1.5)
Total Number of Convictions	41			0 to 4	.29 (.92)
Total Violation Probation/Parole					
Total Number of Charges	227			2 to 14	3.6 (2.2)
Total Number of Convictions	227			0 to 14	2.7 (2.1)
Incarceration History					
Sentenced to Incarceration Rate	619			0 to 1	.95 (.21)
Prior Times Incarcerated	619			1 to 25	4.64 (4.07)
Total Time Imposed (in days)	589			0 to 55115	5411(6815)
Average Incarceration Sentence (in days)	589			.11 to 2676	176.1 (261.7)

Differences Between Treatment and Comparison Groups

In comparing the treatment and comparison groups (Table 4) there is only one difference in demographics – in terms of race -- of those who mediated, 12% were white, 88% were primarily African American. In contrast, 22% of those who did not mediate were white (sig at p<.01). This may be partially attributed to the fact that 62% of cases that mediated and were included in this study were mediated in Baltimore City and 90% of those who mediated in Baltimore City were African American, compared to 66% among the other jurisdictions (difference is significant at p<.000). Baltimore City's population is not only predominately African American, but 6 of 10 Maryland state prisoners return to Baltimore City after a period of incarceration.[11] Transportation is a challenge for many families interested in using re-entry mediation. Often it is easier for families to use public transportation to get to Baltimore facilities than it is to drive to facilities in other parts of the state. Community Mediation Baltimore has been engaged in providing the service in several facilities, including the Baltimore Pre-Release Unit, thus there may have been greater opportunities for this population to participate in mediation.

The other significant factor between those who participated in mediation and those who did not were the measures of relationship at intake – these were predictive of participating in mediation.[12]

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[11] La Vigne, N.G., Kachnowski, V., Travis, J., Naser, R., & C. Visher, (2003). A Portrait of Prisoner Reentry in Maryland http://www.urban.org/publications/410655.html#execsum

[12] For the control group, additional analysis looked at these measures of the relationship and explored the reasons why cases didn't go to mediation. After splitting the control group into two– those whose identified outside participant declined to participate in mediation combined with those who accepted the invitation, and scheduled a mediation session, but thereafter did not respond (categorized as an "active" decline group (N=69)); were compared to others who did not go to mediation for any other reason including facility issues, unable to participate due to scheduling conflicts, and never able to make contact with P2 (N=428) and found there were no statistically significant differences on these relationship measures. A second group made up of the first category of active declines plus P2s where CMM were unable to make contact ("passive" refusal) (N=161) was compared to everyone else (N=336) and the 3 of the relationship questions and were significantly different compared to the remainder of the control group, with the

Those who felt that P2 played a more positive role were more likely to mediate, as were those with a greater degree of happiness with P2 (both at p<.01); likewise the degree to which the person confided in them (p<.000) and they confided in P2 (p<.01) was also likely to predict participation in mediation. An examination of these relationship questions by race and gender reveals that African American subjects reported significantly higher positive ratings than white subjects on the majority of these relationship questions (significant at p<.05) except for the question "P2 plays a positive role in my life". In contrast, there were no differences between women and men on these questions.

Interestingly, P1s who felt they had greater control in the relationship were more likely to go to mediation (scores of 3.58 vs. 3.23 for those that didn't mediate) (p<.01) *and* were also more likely to be arrested post-release (3.46 vs. 3.22 for those not arrested (p<.05)). Comparisons by race and gender on this measure indicate non-whites reporting higher degree of control with scores of 3.38 compared to white subjects who report 2.97 (significant at p<.01). Again, there were no differences by gender. While we theorize this question measures positive feelings of empowerment in a relationship, perhaps this measures some another attribute (e.g., overconfidence) that may operate differentially for those who mediate versus those who do not.

In terms of criminal history, only four measures were significantly different between the treatment and the comparison group.[13] The groups differed on the days since release – those who did not mediate were in the community 3 months longer than who did mediate (significant at p<.000). This finding highlights the importance of using analytic methods, particularly hazard analysis, which allows one to account for these types of differences between the treatment and comparison groups.

The treatment and comparison groups also differed in that those who mediated had more of a history of violation of probation/parole (VOP) charges and convictions – on average, those in the treatment group had 4.35 VOP charges (and 3.52 convictions) compared to those in the comparison group (3.42 VOP charges and 2.50 convictions)[14] This may be an indicator that those who participated in mediation had tried to succeed in the past in the community, but failed, and now they, and their outside participants, were ready to try something new. While generally older

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active/passive refusal group reporting lower score (4.02 compared to 4.27) on the party playing a positive role in their life; having a lower degree of happiness with P2 (4.39 vs. 4.86) (both significant at p<.05) and reporting they confided less often (2.37 vs. 2.58 – significant p<.10) in P2. It is important to note that the inability of CMM to reach the outside party and/or a refusal to participate may be a proxy for relationships that have grown further apart (e.g., the contact information is provided by P1 who may have lost touch with P2). The other significant measure was attitudes toward conflict – those in the passive/active control group had a lower agreement score lower than the others -- 3.74 vs. 4.05 (P<.01). It is likely that the passive/active refusal group may benefit most from the mediation process given the opportunity to experience conflict resolution. This is supported by prior evidence from the CMM Reentry Mediation program which found among 213 inside participants, there is a statistically significant gain of .37 (p<.000) in the feeling that conflict can be dealt with productively in the period between intake to the conclusion of the first mediation session.

[13] In addition to comparing all of the measures in Table 3, a number of other measures of criminal history were examined including that each charge was cataloged by type of offense (e.g., person, property, drug) of the most serious offense and class (felony (coded as 1), or misdemeanor (coded as 0)) and the offense seriousness category from I (most serious) to VII (least serious). The treatment and control groups were compared on this offending seriousness (e.g., average minimum and maximum seriousness of charges and convictions based on the Maryland State Commission on Sentencing Guidelines), as well as additional sentencing measures and none were significantly different.

[14] VOP charges in MD CJIS are listed only as VOP, without listing the originating offense, and it is not entirely clear whether the date of arrest for VOP charges is the originating date of arrest, or the arrest date for the VOP.

offenders are more likely to desist[15], it is important to note that there were no significant differences among those who mediated and those who did not based on age, length of criminal career, number of prior incarcerations, and other measures that may indicate offender fatigue.

Finally, the groups also differed on traffic convictions with those in the mediation group never having been convicted of a traffic offense, while those in the comparison group had a history of traffic convictions (0 to .15).

Table 4: Significant Differences between Treatment and Comparison Groups N=620

	Treatment Group			Comparison Group			Significant Difference
	N	Mean	SD	N	Mean	SD	
Demographics							
Race – Proportion White	123	.12	.33	497	.22	.41	-.10**
Relationship							
P2 plays a positive role in my life	118	4.47	.85	480	4.19	1.07	.28**
Degree of happiness with P2	118	5.23	1.62	479	4.71	1.93	.52**
How often do you confide in P2	118	2.99	1.07	480	2.51	1.19	.48**
How often does P2 confide in you?	118	2.79	1.16	479	2.40	1.18	.39**
Feeling of control in relationship	116	3.58	1.20	478	3.23	1.36	.36**
Criminal History							
Days Since Release	123	424.7	244.9	497	514.8	261.8	-90.1***
Total Number of VOP Charges	51	4.35	2.8	176	3.42	1.9	.93*
Total Number of VOP Convictions	51	3.52	2.8	176	2.50	1.8	1.02*
Total Number of Traffic Convictions	11	0	0	54	.15	.52	.15*

***Difference between those in the treatment group to those comparison group is significant p<.00
**Difference between those in the treatment group to those comparison group is significant p<.01
* Difference between those in the treatment group to those comparison group is significant p<.05

Overall, in numerous ways, the comparison and treatment groups are much more similar than different. This allows us to be more confident in assessing the impact of mediation upon outcomes. A discussion of the analytical methods and the results of the recidivism analysis follow.

With the exception of "Feeling of control in relationship" and total traffic convictions, the variables which are different between the control and treatment group are not predictors of arrest. Therefore, we can move forward with the analysis confident that mediation is not merely a proxy for one of these other differences that may be affecting the outcome.

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[15] See for example, Uggen, C. (2000). Work as a Turning Point in the Life Course of Criminals: A Duration Model of Age, Employment and Recidivism. American Sociological Review, 67, 529-546.

Research Design

Two methods of analysis were utilized to explore the impact of mediation on three measures of recidivism -- re-arrest, reconviction, and re-incarceration. CJIS criminal history data, combined with CMM intake and service records, were analyzed with two principal statistical methods – logistic regression and Cox Regression (or survival/hazard modeling). In addition, where appropriate, the analysis included measures to control for relevant factors including the length of criminal career (in days) and days since release.

The first method discussed is logistic regression, which predicts which of the three possible outcomes (arrest/no arrest; conviction/no conviction; incarceration/no incarceration) are going to occur, while accounting for information contained in other variables which could explain that outcome (e.g., older offenders are less likely to recidivate, thus one would want to "control" for age in the analytic model).

The next analytic method employed was Cox Regression – also referred to as survival analysis. This method allows one to explore the timing of events, including the time for an individual to "fail" (in this case arrested or convicted). This analysis is useful because it allows one to account for different starting points (e.g., you don't have to artificially eliminate subjects because they were released either before or after a period you want to observe). For this analysis, the treatment group was compared to the comparison group to ascertain whether the mediation helped these previously incarcerated people remain in the community without a new arrest or conviction longer than those who did not mediate.

Note that the probability of arrest -- derived from the logistic regression analysis -- is not the same as the hazard or risk of arrest. The **probability** of arrest is based on the cumulative, or the overall likelihood of a situation occurring. The **risk** of arrest, obtained in the survival analysis, considers the timing of the arrest, or the relative rate of this person failing given how long they have survived.

The first step in examining the role of mediation was to conduct a statistical test to compare the average values of particular outcomes between the two groups (Table 5). The mediation intervention was assessed two ways – as a discrete event (e.g., mediated vs. not mediated) and by number of mediation sessions (ranging from 1 to 5). Table 6 provides the results of the logistic regression and survival analysis for mediation, while the number of mediation sessions on recidivism outcomes is detailed in Table 7. The results are detailed below.

Recidivism Analysis and Results

Table 5 shows there are significant differences on 6 outcomes for those who participated in mediation versus those who did not. Those who mediated were significantly less likely to be arrested (on average 24% versus 34% of the comparison group) and among those arrested, treatment group members were significantly less likely to charged with a sexual crime. However, in observing this data more closely, only 7 individuals (less than 4% of those arrested post release) were charged with sexual crimes, and of those, 4 (57%) were women charged with prostitution.

Looking at those convicted post release, mediation participants were charged with less serious crimes, as indicated by significantly fewer felony offenses and crimes having a lower seriousness

category than those in the comparison group. Specifically, 5% of post-release charges were felonies for the treatment group compared to 25% of charges the comparison group (p<.000). In addition, the maximum seriousness category of charges filed against the treatment group averaged 2.60 (crimes that were either a category V or VI such as resisting arrest, possession of firearms, theft, third degree sexual offenses, possession of CDS (non-marijuana) and second degree assault). The most serious category charge for the comparison group averaged 3.58 – falling between a category V and IV (which include crimes such as theft, possession of CDS (non-marijuana), second degree assault, CDS distribution (narcotics), possession with intent to manufacture, robbery, and third degree burglary).

Two outcomes related to post-release incarceration also vary significantly – the total number of times incarcerated for 1 or more days, and the total number of prison days imposed. For the 8 treatment group participants who were incarcerated, they were incarcerated 1 time, compared to the 57 in the comparison group who were incarcerated 1.26 times (p<.01). The number of prison days imposed is fewer for the treatment group (263 days vs. 728 days for the comparison group) – a statistically significant (p<.01) difference of 440 days fewer for the treatment group. These outcomes likely reflect in the differences in the seriousness of crimes committed post-release among the treatment and comparison groups.

It is important to note that when looking at post-release outcomes, the sample size of the treatment group is small – with a total of 123 mediation participants (compared to 497 in the comparison group) there were only 29 individuals who were arrested following release (compared to 167), and diminishes still further with each step in the process (e.g., among the treatment group, 10 convicted; 8 incarcerated). Overall, these results are encouraging yet the small sample size demands one view these findings as promising, and advise caution against overstating these results.

Table 5: Treatment and Comparison Group Differences on Post-Release Outcomes

	Treatment Group			Comparison Group			Significant Difference
	N	Mean	SD	N	Mean	SD	
Arrested Post -Release	123	.24	.43	497	.34	.47	-.10*
Among those Arrested							
Number of Arrests	29	1.55	1.3	167	1.69	1.1	-.14
Convicted Post Release	29	.34	.48	167	.44	.50	-.10
Total Number of Sex Charges	29	.00	.00	167	.19	1.0	-.19*
Among Those Convicted							
Proportion of Felony Charges	10	.02	.05	73	.25	.27	-.23***
Most Serious Category - Charges	10	2.60	1.26	73	3.58	1.46	-.97*
Incarcerated Post-Release	10	.80	.42	73	.78	.41	.02
Among Those Incarcerated							
Number of Times Incarcerated	8	1.0	.0	57	1.26	.58	-.26**
Total Time Imposed (in Days)	8	288.1	263.4	57	728.4	1085.1	-440.2*

* Significant at p<.05   **Significant at p<.01   ***Significant p<.000

Logistic and Cox (Survival Analysis) Regression

Results: Logistic Regression -- Mediation vs. No Mediation

As indicated in Table 6, participation in reentry mediation has a statistically significant impact on the likelihood that an individual will be arrested post-release (p<.05), with mediation decreasing the probability of arrest.

The first column of Table 6 provides the results for participation in mediation on post-release arrest, including controlling for explanatory variables of the length of time since the individual was released (those who were in the community longer were more likely to be arrested[16]) and length of criminal career in days, (although the impact on the probability of arrest for both days from release and career was negligible). Gender was a significant factor (if male, the probability of arrest increased by 12%) and proportion of prior felony convictions – for those who had more felony convictions over their criminal career, participation in mediation reduced the probability of arrest by 19%. Overall, after controlling for key factors, the probability of arrest for those who participate in mediation is 21% compared to the probability of arrest of 31% for those who do not participate in mediation.[17]

One relationship measure was significant in the regression model – "I feel I have no control in this relationship" with those scoring higher on this measure, *raising* the probability of arrest by 3%. Although unsure exactly why this is the case, it could be related to overconfidence. The remaining variables -- age, race (proportion of white participants), and total number of career VOP convictions were not significant.

There was no significant impact of mediation on post-release conviction or incarceration outcomes (Columns 2 and 3 of Table 6). This may very well be due to the small sample size.

Results: Cox Regression (Survival Analysis) -- Mediation vs. No Mediation

The next analysis was to observe if there was a difference in the two groups, accounting for time to arrest.[18] CJIS data provides the offender's history including all dates of arrest, the outcome of that arrest, and sentencing data. The period between the date of release and the date of the first arrest was calculated to create a "days to event" which was the outcome measure. The same process was used to identify the date of first conviction post release. Column 4 in Table 6 reveals that participation in mediation reduces the hazard (or risk of arrest)[19] by 37% compared to those who do not mediate. This was the case even after controlling for all the factors in the model discussed in Table 6. In addition, those who participated in mediation appear to have a longer period of time

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[16]Although the treatment and comparison groups differ significantly on the number of days in the community, with the treatment group's exposure for risk for 90 fewer days than the comparison group, we do not think there a systematic reason for this difference (e.g., participation in the program did not accelerate release from the institution). This difference is based on something that we cannot account for in our data; something other than selection bias.

[17] Probabilities were calculated based on output values (calculation worksheets are provided in Appendix A).

[18] Additional analysis was conducted exploring outcomes using shorter periods of time (at 1 and 2 years post release) in order to determine if the results varied with different periods at risk. There was no substantive change in our results.

[19] See Appendix B for calculation worksheet for conversation of hazard rate into relative risk.

before re-arrest than those who do not mediate – the treatment group averaged 838 days to arrest vs. 794 days for the comparison group (although the difference was not statistically significant).

Table 6: Regression: Mediation on Recidivism Outcomes

	Logistic Odds Ratios and z Statistic			Cox Regression Coefficients and Standard Errors
	(1)	(2)	(3)	(4)
	Arrest	Conviction	Incarceration	Time until Re-Arrest
Mediated	0.59	0.77	.82	-.46
	(1.98)*	(.60)	(.20)	(.22)*
Days from Release	1.00	1.00	1.00	
	(6.51)**	(3.64)***	(1.49)	
Criminal Career in Days	1.00	1.00	.99	.00
	(1.94)	.10	(.27)	(.00)[+]
White (1=White; 0=Other)	0.67	1.32	2.53	-.33
	(1.51)	(.64)	(.81)	(.20)
Gender (1=Male; 0=Female)	1.97	1.04	2.97	.39
	(2.33)*	(.09)	(1.26)	(.22)[+]
Age of Participant	0.96	.99	1.05	-.03
	(1.95)	(.01)	(.59)	(.01)[+]
Prop. Prior Felonies Convicted	0.36	.55	1.04	-.77
	(2.81)**	(.32)	(.03)	(.29)**
Total VOP Convictions	1.01	.95	.65	.02
	(0.21)	(.45)	(1.94)[+]	(.04)
No Control Relationship(R)	1.19	1.21	.58	.11
(higher values=more control)	(2.37)*	(1.46)	(1.62)	(.05)*
Observations	583	183	77	620
Pseudo R-Square	.11	.08	.13	
Log Likelihood	-321.58	-113.92	-36.34	2134.83

[+] Significant at p<.10   * Significant at p<.05   ** Significant at p<.01   ***Significant at p<.000

Results: Logistic Regression – Number of Mediation Sessions

Column 1 in Table 7 outlines the impact of dosage of mediation on outcomes. Mediation, measured as the number of sessions, was a significant factor in reducing the probability of post-release arrest. With each additional session, the probability that the participant would be arrested was reduced by 6%.[20]   This was the case even after controlling for all the factors in the model discussed in Table 7.

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[20] See calculations based on output values in Appendix A.

There was no significant impact of number of mediation sessions on post-release conviction or incarceration outcomes (Columns 2 and 3 of Table 7). This may be due to the small sample size.

Results: Cox Regression (Survival Analysis) -- Number of Mediation Sessions

Column 4 in Table 7 reveals that each additional mediation session reduces the hazard or risk of arrest[21] by 23% compared to those who do not mediate. This was the case even after controlling for all the factors in the model in Table 7.

Table 7: Regression: Number of Sessions on Recidivism Outcomes

	Logistic Odds Ratios and z Statistic			Cox Regression Coefficients and Standard Errors
	(1)	(2)	(3)	(4)
	Arrest	Conviction	Incarceration	Time until Re-Arrest
Number of Sessions	0.73	0.87	.65	-.25
	(2.09)*	(.63)	(.82)	(.13)*
Days from Release	1.00	1.00	1.00	
	(6.62)***	(3.66)***	(.1.48)	
Criminal Career in Days	1.00	1.00	.99	.00
	(1.93)+	(.11)	(.23)	(.00)+
White (1=White; 0=Other)	0.66	1.32	2.45	-.33
	(1.53)	(.64)	(.78)	(.20)
Gender (1=Male; 0=Female)	1.99	1.04	3.14	.40
	(2.37)*	(.09)	(1.33)	(.22)+
Age of Participant	0.96	.99	1.05	-.03
	(1.96)*	(.01)	(.63)	(.01)+
Prop. Prior Felonies Convicted	0.36	.55	1.08	-.76
	(2.80)**	(.98)	(.07)	(.29)**
Total VOP Convictions	1.01	.95	.63	.02
	(0.20)	(.44)	(2.04)*	(.04)
No Control Relationship(R)	1.19	1.20	.57	.11
(higher values=more control)	(2.35)*	(1.45)	(1.67)+	(.05)**
Observations	583	183	77	620
Pseudo R-Square	.11	.08	.14	
Log Likelihood	-321.21	-113.94	-36.05	2134.83

+ Significant at p<.10   * Significant at p<.05   ** Significant at p<.01   ***Significant at p<.000

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[21] See Appendix B for calculation worksheet for conversation of hazard rate into relative risk.

Limitations

This study has several limitations that must be noted. First, the analysis does not account for time that the individual may not have been "at risk" due to a post-release incarceration. While the CJIS criminal history data provides whether an individual has been re-arrested, and reconvicted, as well as sentencing information indicating if an individual was sentenced to confinement, the data contains neither dates of release nor dates of incarceration.

A related issue with these data pertains to violations of parole or probation. It is not entirely clear how CJIS data captures the events for an individual on parole who is charged with a new arrest, and returns to prison on a violation of parole triggered by that new arrest, rather than on the new charge.

In addition, the dates of release used in this analysis were based on dates the CMM Case Managers obtained from the inmate during the intake process. In some instances, release dates were missing, so a "proxy" release date was created based first on the date of the final mediation session, the CMM intake date, and the date the individual signed-up for mediation services (which was often, but not always, the same date as the intake date).

Another limitation is that the CJIS data does not appear to contain any event past October 12, 2012. Thus those in the sample who were released in summer of 2012 did not have as long of a time to "fail" as those released in prior periods. While we utilized survival analysis to control for varying times to arrest, this limitation remains.

Although the treatment and comparison samples were largely similar in a number of different ways – from demographics to criminal history, it remains that the evaluation requires a more rigorous evaluation design to address concerns of selection bias. While it is not feasible to randomize subjects to mediation, a next step would be to utilize quasi-experimental statistical controls (propensity score matching on a second comparison group randomly selected from a cohort released in a similar time period) to address these concerns.

Finally, the number of subjects who both mediated and who were rearrested were few compared to those in the comparison group, thus these results, while promising, should be viewed cautiously until a larger treatment group can be included in future recidivism analysis.

Conclusions

In summary, participation in mediation has a strong impact by reducing the probability of arrest by 10%; and repeated engagements in the service further shores up the impact by 6% for each added mediation session. In addition, analysis reveals that those who participate in mediation appear to survive a longer period of time before a post-release arrest event, compared to those who did not mediate, (although this difference was not statistically significant).

The key to understanding the saliency of these findings is that the greatest limitation of mediation may also be its greatest strength – it is a short-term "intervention". In fact, the majority of 123 mediation participants had but one 2 hour session. The impact of mediation is believed to be indirect and akin to a critical course correction to turn an individual away from a criminal trajectory

through the improved relationship with family and support persons and adherence to agreements and plans negotiated during mediation.

Overall, these results are very promising. The next step in the research plan is to couple these results with follow-up surveys which more directly assess the impact of mediation on the relationship. CMM continues to engage participants into the service, and we hope to conduct a larger scale study utilizing quasi-experimental statistical controls (propensity score matching) on a second comparison group randomly selected from a cohort released in a similar time period.

The current study provides support for the hypothesis that mediation can be effective at strengthening relationships, at strengthening relationships, and those relationships, in turn, support offenders from continued engagement in criminal activities post-release. Mediation is an innovative tool in a comprehensive and integrated reentry strategy.

Appendix A: Conversion of Odds Ratio to Probability Worksheet

ARREST	Odds Ratio	Reduction In Odds	Change from 0 (CTRL) to 1 (TX)	Change into %		
Mediated	0.588	-41%	-0.1	-10%	The probability that those who mediate will be arrested is reduced by 10%	
Reldays	1.00	0%	0.0002	0%		
Career	1.00	0%	0	0%	observations	583
White	0.67	-33%	-0.0773	-8%	LL	-321.69
Gender	1.97	97%	0.1242	12%	pseudo r2	0.1131
Age	0.96	-4%	-0.0093	-1%		
Conv. Fel	0.36	-64%	-0.1923	-19%		
VOP sum	1.01	1%	0.0024	0%		
No Ctrl	1.192	19%	0.028	3%		

Probability of Arrest – Treatment Group vs. Comparison Group for full model[22]

Treatment Group	21%
Comparison Group	31%

ARREST	Odds Ratio	Reduction In Odds	Change from 0 (CTRL) to 1 (TX)	Change into %		
# Sessions	0.733	-27%	-0.0618	-6%	With each added session, probability of arrested is reduced by 6%	
Reldays	1.002	0%	0.0002	0%		
Career	1.00	0%	0	0%		
White	0.67	-33%	-0.078	-8%	observations	583
Gender	1.99	99%	0.1261	13%	LL	-321.3
Age	0.961	-4%	-0.0094	-1%	pseudo r2	0.1142
Conv. Fel	0.36	-64%	-0.1916	-19%		
VOP sum	1.01	1%	0.0022	0%		
No Ctrl	1.19	19%	0.0277	3%		

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[22] Calculated by running the regression model separately by restricting it to only those cases that mediated and then for those cases that did not mediate.

Appendix B: Conversion of Hazard Rates to Relative Risk Worksheet

ARREST	Exp(B) Hazard Rate	Relative Risk	
Mediated	.627	0.37	The risk of arrest for those who mediate is reduced by 37% compared to those who do not mediate, with all other values held constant.
Career	1.000	000	
White	.714	0.29	
Gender	1.486	+.48	
Age	.972	0.03	
Conv. Fel	.462	0.54	
VOP sum	1.022	+.02	
No Ctrl	1.124	+.12	

ARREST	Exp(B) Hazard Rate	Relative Risk	
# Sessions	.773	0.23	The risk of arrest for each additional mediation session is reduced by 23% compared to those who do not mediate, with all other values held constant.
Career	1.000	000	
White	.716	0.28	
Gender	1.502	+.50	
Age	.972	0.03	
Conv. Fel	.465	0.53	
VOP sum	1.020	+.02	
No Ctrl	1.122	+.12	