Evaluation of The Florida Department of Juvenile Justice Disposition Recommendation Matrix

Final Report

Ryan C. Meldrum, Ph.D.
Florida International University
July, 2017

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

Table of Contents

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

Introduction

As part of the Juvenile Justice System Improvement Project (JJSIP), the Florida Department of Juvenile Justice began implementation of a Disposition Matrix starting in 2013 to guide Juvenile Probation Officers in their recommendations to the court.[1] This report represents the second evaluation as to whether youth who received dispositions within the Disposition Matrix guidelines were less likely to recidivate than youth who received dispositions which deviated from the Disposition Matrix guidelines.

Highlighted Results

1. Of the dispositions examined, 97% fell within the guidelines of the Disposition Matrix. Youth who scored higher on the Positive Achievement Change Tool (PACT) were less likely to receive a disposition within the guidelines of the Matrix. Male youth were less likely than female youth to receive a disposition within the guidelines of the Matrix. Black youth were more likely than White youth to receive a disposition above the guidelines of the Matrix. Youth in the North region of the state were more likely to receive a disposition above the guidelines of the Matrix.

2. A conservative estimate is that, across all youth in the state, receiving a disposition that is above the guidelines of the Disposition Matrix increases the likelihood of recidivism by at least 75%. The data indicate this might be significantly higher for some subgroups of youth, particularly Black youth.

3. No firm conclusion can be reached regarding the impact of receiving a disposition below guidelines on the likelihood of recidivism, as only 0.31% of all dispositions were below the guidelines of the Disposition Matrix. In some analyses, receiving a below guidelines disposition appeared to decrease the likelihood of recidivism, in other analyses there was no statistically significant effect, and still in other analyses it was suggested that receiving a below guidelines disposition increased the likelihood of recidivism.

4. There is some evidence suggesting that receiving a disposition categorized as appropriate increased the likelihood of recidivism relative to receiving an optimum disposition. This appears to be most likely for youth scored as moderate-high or high risk on the PACT, as well as for female youth. For example, youth scored as moderate-high risk on the PACT were 42% more likely to recidivate if they received an appropriate rather than an optimum disposition.

Methodology

Fiscal year 2012-2013 to 2014-2015 releases that were from a disposition/placement that was the first disposition of a given arrest were examined for the current evaluation. Youth must have been assessed using the PACT. Data were taken from the closest PACT risk assessment before

---

[1] Statewide implementation of the JJSIP initiatives across all 20 districts, including the Disposition Matrix, was completed in 2017. Only some districts began implementing the Disposition Matrix in 2013.

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

the date of the disposition of interest. This resulted in 57,444 completed releases that were from the first disposition of a referral and for which PACT data was available. The majority of releases that were not included in this analysis were unsuccessful completions, diversion placements for which there was no PACT assessment, commitment placements that were not the original disposition of a given referral (e.g., Adult Transfers committed back to the Department), Walker Plan dispositions, dispositions for a violation of probation, and youth assigned probation without supervision. In addition, aftercare placements are not included, as they are not part of the Disposition Matrix.

Disposition Matrix

 The Disposition Matrix is a structured decision-making tool used by Juvenile Probation Officers (JPOs) in their disposition recommendations to the court (Figure 1). The level 1 indication is not actually used by JPOs, as civil citation occurs at "arrest" (and is therefore not a recommendation to a court). Level 1 is included on the Disposition Matrix, however, to illustrate the FDJJ focus on the importance of civil citation and which youth should receive it.

Figure 1. Florida Department of Juvenile Justice Disposition Recommendation Matrix

Florida Department of Juvenile Justice Disposition Recommendation Matrix
(Staff should begin with the least restrictive setting within a particular disposition category. See Structured Decision-Making guidelines.)

Most Serious Presenting Offense	PACT Risk Level to Reoffend			
	Low Risk to Reoffend	Moderate Risk to Reoffend	Moderate-High Risk to Reoffend	High Risk to Reoffend
Civil Citation Eligible[1]	Level 1	Level 1	N/A	N/A
Minor[2]	Level 2 or 3a	Level 2 or 3a	Level 2 or 3a-c	Level 3a-c or 4
Serious[3]	Level 2 or 3a	Level 2 or 3a-b	Level 3a-c or 4	Level 3a-c or 4
Violent[4]	Level 2 or 3a-b	Level 2, 3a-c, or 4	Level 3a-c, 4, or 5	Level 3a-c, 4, or 5

[1] – Eligibility for civil citation is outlined in F.S. 985.12. Youth deemed ineligible for civil citation (based on community standards) should be reviewed under the "Minor" offense category based on the PACT risk level to reoffend.
[2] – All misdemeanor offenses.
[3] – Felony offenses that do not include violence.

Level 1 – Alternatives to Arrest Level 2 – Diversion & Non-DJJ Probation
Level 3 – Community Supervision Level 4 – Non-Secure Residential Commitment
  (3a) – Probation Supervision Level 5 – Secure Residential Commitment (High & Maximum Risk Programs)
  (3b) – Probation Enhancement Services (ART, EPICS, LifeSkills, etc.)
  (3c) – Day Treatment, MST, FFT, Minimum Risk Commitment

[4] – Violent felony offenses (do not include misdemeanor assault and battery which are captured under "Minor").

Updated January 2016

FIU | Steven J. Green School of International & Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

All given dispositions can be grouped into four categories according to the Disposition Matrix. A disposition could be:

Below Guidelines: The disposition is less restrictive than the Disposition Matrix would suggest. For example, if the Disposition Matrix recommends probation supervision (3a) through non-secure residential commitment (4), and the youth was placed on diversion (2), the disposition is less restrictive than the Disposition Matrix calls for, and is therefore below guidelines.

Optimum: The disposition is the least restrictive option suggested within the given cell of the Disposition Matrix that has not previously been attempted with the youth. For example, if the Disposition Matrix suggests diversion (2) through day treatment (3c) and the youth has never been placed on diversion before, receiving diversion would be an optimum disposition. In the same example, if the youth has previously received diversion (2), then probation supervision (3a) would be the least restrictive disposition not previously attempted, and it would therefore be classified as the optimum disposition.

Appropriate: The disposition is within the suggested range of the given cell of the Disposition Matrix but is not optimum. For example, if the Disposition Matrix recommends probation supervision (3a) through non-secure residential commitment (4), and the youth already received probation supervision (3a), then probation supervision (3a), day treatment (3c), and non-secure residential commitment (4) would be appropriate (enhanced probation [3b] would be the optimum disposition).

Above Guidelines: The disposition is more restrictive than the Disposition Matrix would recommend. For example, if the Disposition Matrix recommends diversion (2) through non-secure residential commitment (4), and the youth receives secure residential commitment (5), the disposition would be above guidelines.

Given the definitions above, both below guidelines and above guidelines dispositions are outside of the Disposition Matrix guidelines. While optimum and appropriate dispositions are both considered to be within the guidelines of the Disposition Matrix, optimum and appropriate dispositions were classified separately from one another in the current evaluation to also assess whether youth given an optimum disposition fared better than youth given an appropriate disposition.[2] Each of the 57,444 releases was classified as being optimum, appropriate, above, or below guidelines. This was based on a youth's risk to re-offend at the time of the arrest leading to that disposition (i.e., PACT risk score), the seriousness of the presenting offense being disposed (minor, serious or violent), and the youth's prior placement history (used to determine what an optimum placement would be).

---

[2] This is not something which was done in the original validation study within a multivariate framework. As will be discussed, the original validation data was re-examined when separating out optimum and appropriate dispositions for comparative purposes (Appendix A and B).

Part I: Adherence to the Disposition Matrix

Statewide

Part I of the evaluation examined the extent to which completed dispositions during the period FY 2012-13 to 2014-15 adhered to the Disposition Matrix guidelines. This was first examined statewide. As shown in Figure 2, the vast majority of the 57,444 dispositions were optimum (78.16%). When the percent of dispositions that were appropriate (18.57%) is added to this, 96.73% of all dispositions fell within the matrix guidelines. Of those dispositions that were outside of the Disposition Matrix guidelines, 2.96% were above guidelines, while 0.31% were below guidelines.

Figure 2. Adherence to the Disposition Matrix - Statewide
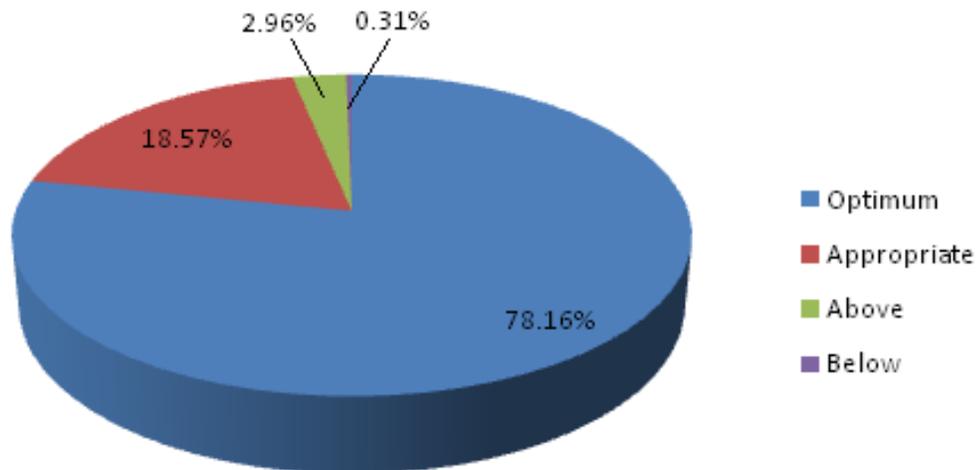
Of note, the percent of dispositions that were outside of the matrix guidelines (3.27%) for FY 2012-13 to 2014-15 was smaller than the percent of dispositions that were outside of guidelines based on data from the first validation study based on FY 2010-11 dispositions. Specifically, of the 32,071 dispositions for FY 2010-11 in which the disposition resulted in a completion, 6.52% were outside of the guidelines.[3] This strongly suggests that the implementation of the Disposition Matrix beginning in 2013 has influenced decision-makers (i.e., probation officers, prosecutors, judges) in the process of assigning dispositions to youth, resulting in a greater percent of dispositions that meet the recommended service needs of youth across the state.

---

[3] The number of dispositions and the percent of them falling outside of guidelines reported here differs from the information presented in the first validation study because the report from the first validation study included information on both completed and non-completed dispositions.

PACT Risk Level

Having examined adherence to the Disposition Matrix guidelines statewide, the next objective was to examine adherence across subgroups. Adherence was first examined across PACT risk level. Figure 3 shows that 82.15% of dispositions where a youth scored low risk on the PACT were optimal. This is particularly noteworthy given that youth who were scored as low risk on the PACT accounted for 77% of all dispositions.

There are, however, some observable patterns as one moves from dispositions assigned to low risk youth to those assigned to high risk youth. First, the percent of dispositions that were optimum declined across the categories of risk; only 55.71% of youth scored as high risk on the PACT were assigned an optimum disposition. This decline in optimum dispositions as PACT risk increases is partially offset by an increase in appropriate dispositions. For youth scored as low risk on the PACT, 16.69% of dispositions were appropriate. For youth scored as high risk on the PACT, 33.50% of dispositions were appropriate. Considering optimum and appropriate dispositions together, 98.84% of youth scored as low risk on the PACT received dispositions within the guidelines. This combined percentage for "within guidelines" declined as PACT risk increased (92.01% for moderate risk youth, 86.43% for moderate-high risk youth) and then slightly increased for high risk youth (89.21%).

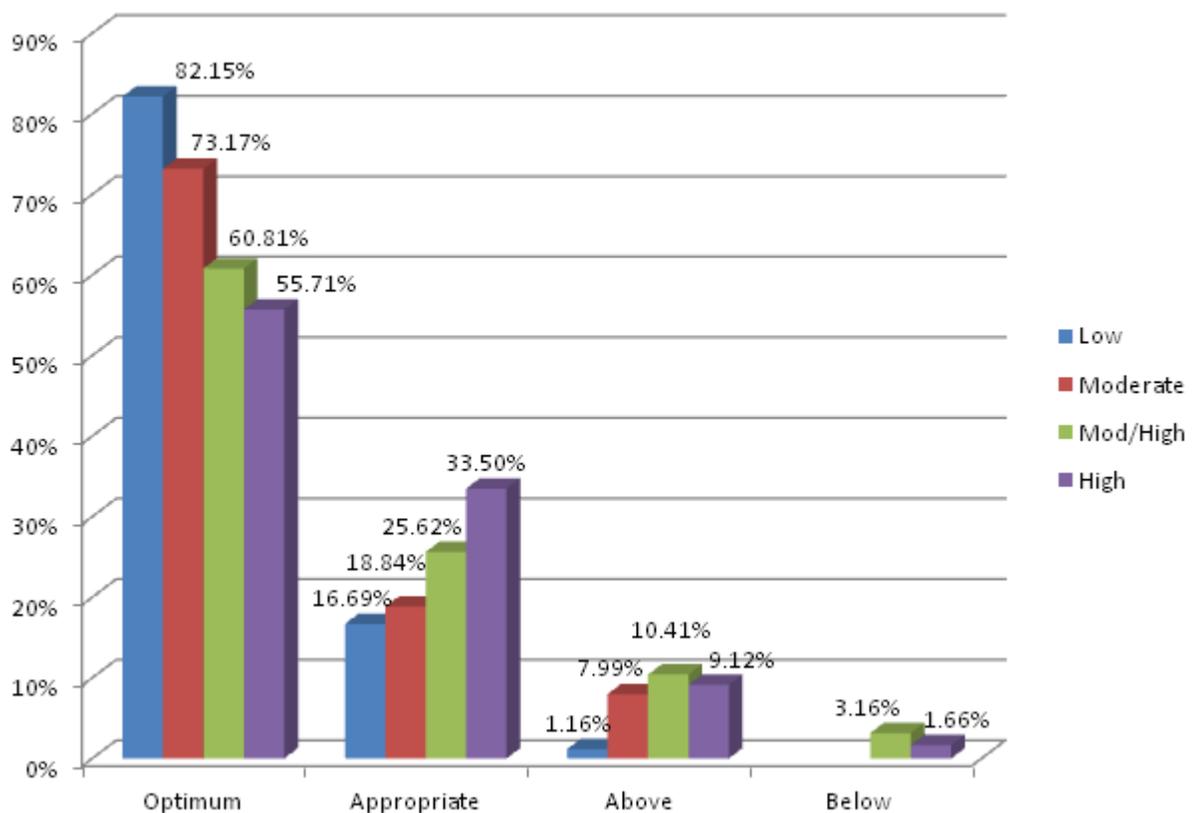**Figure 3.** Adherence to the Disposition Matrix - by PACT Risk Levels

Figure 3 also displays the percent of dispositions that were either above or below the matrix guidelines by PACT risk. With regard to dispositions above guidelines, there is a clear indication that youth who scored low risk on the PACT were very unlikely to be given a disposition above guidelines (1.16%), but there is a notable increase in above guidelines dispositions among youth who scored moderate risk on the PACT (7.99%). While the percent of dispositions that were above guidelines is slightly higher for youth who scored moderate-high (10.41%) or high (9.12%) on the PACT, the clearest distinction is the increase from low to moderate risk youth.

With regard to youth assigned dispositions below guidelines, it must first be noted that the matrix guidelines effectively rule out the possibility that a youth scored as low or moderate risk on the PACT can be placed below guidelines. This is reflected by the fact that zero youth scored as low or moderate risk on the PACT were assigned a below guidelines disposition. Figure 3 does show, however, that 3.16% of youth scored as moderate-high risk on the PACT were assigned a disposition below guidelines, and 1.66% scored as high risk were assigned a disposition below guidelines.

Sex

Figure 4 shows adherence to the Disposition Matrix guidelines separately for males and females. There is a clear indication that males were less likely to receive an optimum disposition (74.56%) compared to females (86.97%). This difference between males and females is partially offset by the fact that males were more likely to receive an appropriate disposition (21.33%) relative to females (11.83%). Figure 4 also makes clear, however, that males were more likely to receive an above guidelines disposition (3.79%) relative to females (0.92%). The difference between males and females in receiving a below guidelines disposition is negligible.

Figure 4. Adherence to the Disposition Matrix - by Sex
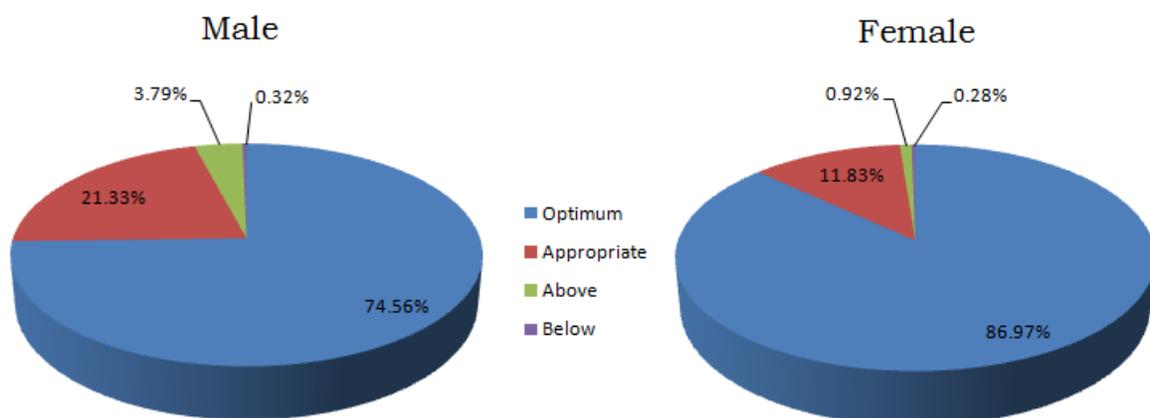
Race/Ethnicity

Figure 5 displays adherence to the Disposition Matrix guidelines by race/ethnicity. Black youth were the least likely to be given an optimum disposition (75.63%), while those categorized as 'Other Race' were the mostly likely to be given an optimum disposition (84.75%).[4] The lower likelihood of Black youth being assigned an optimum disposition is partially offset by the fact that they were the most likely to receive an appropriate disposition (19.93%), though the percent for Hispanic youth is nearly identical (19.62%).

Perhaps of greatest interest are the percentages in Figure 5 pertaining to above guidelines dispositions. Specifically, there is a notable difference between the number of Black youth given an above guidelines disposition (4.11%) and the other race/ethnicity categories (1.69% for 'Other Race, 2.06% for Hispanics, and 2.14% for Whites). With regard to differences between the race/ethnicity categories for receiving a below guidelines disposition, the total number of instances in which below guidelines dispositions were given is so small (N = 178), that a meaningful comparison across the race/ethnicity categories cannot be made.

Figure 5. Adherence to the Disposition Matrix - by Race/Ethnicity

---
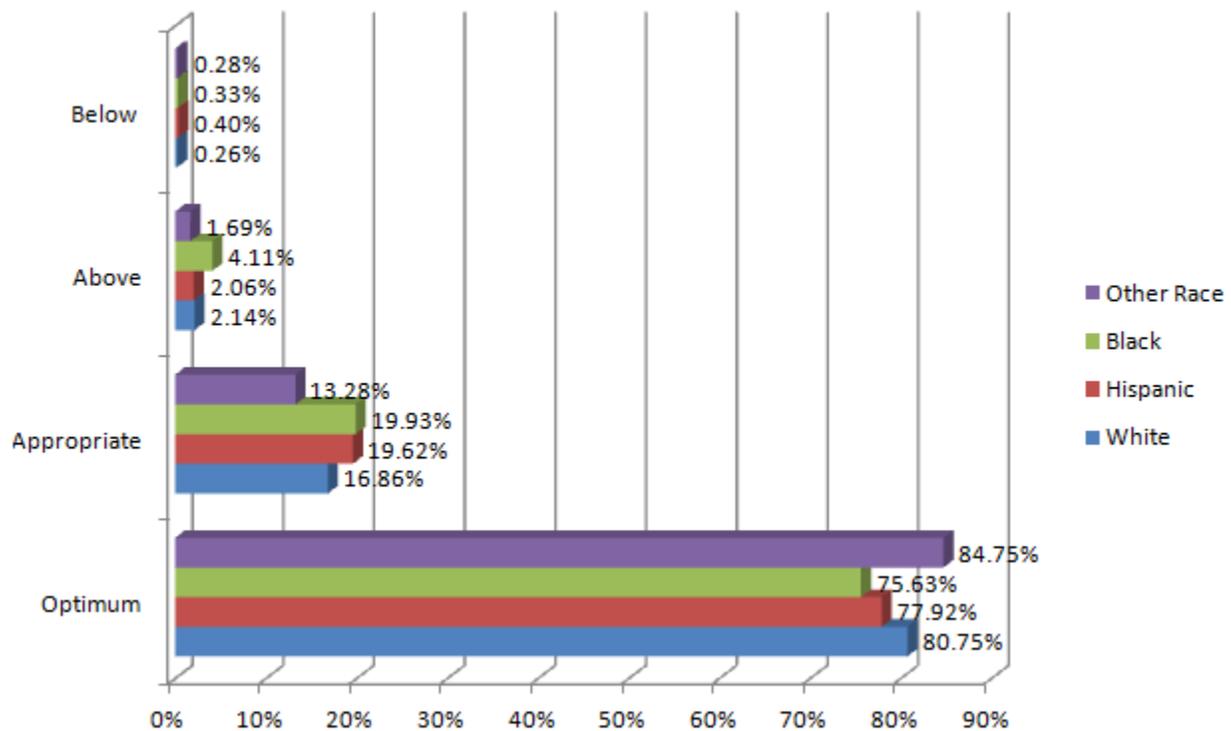
[4] It should be noted, however, that the total number of youth categorized as 'Other Race' across all dispositions is only 354 individuals.

Circuit

Table 1 shows there is significant variability across circuits in adherence to the Disposition Matrix guidelines. The percent of optimum placements ranges from 60.86% (Circuit 11) to 89.81% (Circuit 16). Of particular interest, the percent of above guidelines dispositions ranges from 0% (Circuit 16) to 9.37% (Circuit 4). Given the small number of dispositions that were below guidelines statewide, no meaningful comparison can be made across circuits, but it can be noted that some circuits had zero below guidelines dispositions, while Circuit six had the largest percentage (1.11%) of dispositions that were below guidelines.

Table 1. Adherence to the Disposition Matrix - by Circuit

	Optimum	Appropriate	Above Guidelines	Below Guidelines	N
1	74.82%	21.25%	3.82%	0.11%	2824
2	62.81%	28.01%	9.10%	0.08%	1253
3	69.06%	25.97%	4.97%	---------	543
4	65.66%	24.90%	9.37%	0.07%	4377
5	82.91%	13.31%	3.37%	0.41%	3201
6	87.11%	10.78%	1.01%	1.11%	2978
7	74.35%	22.89%	2.48%	0.28%	2464
8	72.54%	23.71%	3.76%	--------	1278
9	78.02%	19.84%	2.08%	0.06%	5140
10	84.05%	14.43%	1.01%	0.51%	4746
11	60.86%	35.00%	3.73%	0.41%	3671
12	85.48%	12.07%	2.21%	0.24%	1673
13	88.37%	10.23%	0.72%	0.68%	5260
14	65.50%	31.91%	2.59%	--------	887
15	82.26%	16.30%	1.03%	0.41%	2914
16	89.81%	9.22%	-------	0.97%	206
17	76.97%	19.39%	3.45%	0.19%	4759
18	78.73%	18.74%	2.24%	0.29%	2454
19	78.49%	18.63%	2.79%	0.09%	2297
20	85.70%	12.24%	1.97%	0.09%	4519

Percentages shown are row percentages

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

Figure 6 provides a visual representation of the differences between circuits with regard to above guidelines dispositions. Circuits shaded in red had more than 4% of their dispositions assigned above the Disposition Matrix guidelines. These are Circuit 2 (9.10%), Circuit 3 (4.97%), and Circuit 4 (9.37%).

Figure 6. Adherence to the Disposition Matrix - by Circuit
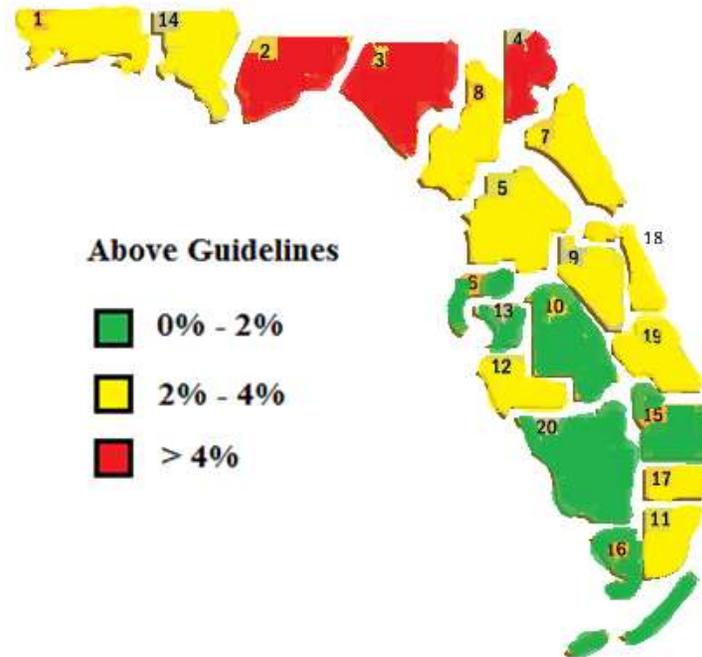
Region

Figure 6 above provides initial indications that the North region of the state is more likely to have a greater percent of dispositions be above guidelines[5]. This is reinforced by the information presented in Table 2 below which presents information aggregated by region. For the North region, 5.34% of dispositions were above guidelines. This is larger than the percent for the Central (1.42%) and South (2.64%) regions. Although the North region accounted for 29.3% of all dispositions, it accounted for 52.9% of all above guidelines dispositions. The North region also has the lowest percent of dispositions that were optimum (72.16%).

Table 2. Adherence to the Disposition Matrix - by Region

	Optimum	Appropriate	Above Guidelines	Below Guidelines	N
North	72.16%	22.33%	5.34%	0.16%	16827
Central	83.61%	14.50%	1.42%	0.48%	22251
South	77.07%	20.05%	2.64%	0.24%	18366

Percentages shown are row percentages

---

[5] The North region includes circuits 1,2,3,4,5,7,8 and 14. The Central region includes circuits 6,9,10, 12, 13, and 18. The South region includes circuits 11,15,16,17,19, and 20.

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

Multivariate Model

Thus far the above bivariate analyses indicate that adherence to the Disposition Matrix guidelines varies across PACT risk level, sex, race/ethnicity, and geographic location. To further probe the relevance of each of these factors in accounting for variability in adherence to the Disposition Matrix, a multinomial logistic regression model was estimated where age at the time of disposition, sex, race/ethnicity, region, PACT risk, and most serious presenting offense were entered as predictor variables.

Table 3 examines predictors of receiving an above guidelines disposition relative to optimum/appropriate (Panel 1), and receiving a below guidelines disposition relative to optimum/appropriate (Panel 2). Relative risk ratios (RRRs) can be interpreted in a manner similar to odds ratios in that a coefficient above 1.0 indicates a positive association, while a coefficient below 1.0 indicates a negative association.

Table 3. Multinomial Logistic Regression Predicting Adherence (N = 57,444)

	Relative Risk Ratio	Standard Error	z-value
Within Guidelines (Optimum or Appropriate) is Base Comparison			
Panel 1: Above Guidelines			
Age	1.31***	.03	10.49
Male[a]	3.04***	.24	14.31
Hispanic[b]	1.20	.12	1.81
Black[b]	1.71***	.16	5.71
Other Race[b]	0.95	.24	-0.19
Central[c]	0.27***	.08	-4.41
South[c]	0.40**	.11	-3.30
PACT Risk Level	1.72***	.12	8.12
Presenting Offense Seriousness	1.74***	.21	4.63
Panel 2: Below Guidelines			
Age	0.64***	.03	-8.67
Male[a]	0.60*	.12	-2.52
Hispanic[b]	1.46	.44	1.26
Black[b]	0.74	.19	-1.16
Other Race[b]	2.14	2.37	0.68
Central[c]	3.21**	1.23	3.04
South[c]	1.78	.64	1.61
PACT Risk Level	4.43***	.33	20.14
Presenting Offense Seriousness	1.88***	.29	4.12
Nagelkerke R-Square	.21		

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is female; [b] reference category is White; [c]reference category is North region; standard errors adjusted for clustering within circuits

Beginning with Panel 1, there are several variables associated with receiving an above guidelines disposition relative to receiving a disposition within the matrix guidelines. Older youth (RRR = 1.31, p < .001), males (relative to females [RRR = 3.04, p < .001]), Blacks (relative to Whites [RRR = 1.71, p <.001]), PACT risk (RRR = 1.72, p <.001), and presenting offense seriousness (RRR = 1.74, p < .001) are each positively associated with receiving an above guidelines disposition. Two variables were found to be negatively associated with receiving an above guidelines disposition: assignment of a disposition in either the Central or South regions of the state (relative to the North region). Specifically, the relative risk ratios of 0.27 (p < .001) for the Central region and 0.40 (p < .01) for the South region indicate that a youth is significantly less likely to receive a disposition above guidelines if the disposition was administered in the Central or South regions, controlling for all other variables in the model.

Moving to Panel 2, several variables are associated with receiving a below guidelines disposition relative to receiving a disposition within the matrix guidelines. Older youth (RRR = 0.64, p < .001) and males (relative to females [RRR = 0.60, p < .05]) were less likely to receive a below guidelines disposition. Three variables were found to be positively associated with receiving a below guidelines disposition: PACT risk level (RRR = 4.43, p <.001), presenting offense seriousness (RRR = 1.88, p < .001), and assignment of a disposition in the Central region of the state (relative to the North region [RRR = 3.21, p <.01]).

Overall, the results in Table 3 indicate that deviations from the Disposition Matrix guidelines are not random occurrences. Instead, both legal (PACT risk, presenting offense seriousness) and extra-legal (age, sex, race, geographic location) factors account for variability in adherence to the Disposition Matrix.[6]

---

[6] The model presented in Table 3 was also estimated using the data from the original validation study of the Disposition Matrix (completers only, see Appendix A). Of note, with the exception of the variable capturing the seriousness of the presenting offense (which was non-significant), all other variables were predictive of deviations from the Disposition Matrix guidelines in exactly the same way as is reported in Table 3. The fact that the results replicate across time (as well as before and after the actual implementation of the Disposition Matrix) increases confidence that both legal and extra-legal factors explain deviations from the Matrix guidelines.

Part II: Disposition Matrix Adherence and Recidivism

Statewide

Part II of the evaluation examined patterns of 12-month post-disposition recidivism and factors associated with recidivism. Of central interest is whether youth who received a disposition within the Disposition Matrix guidelines were less likely to recidivate relative to youth who received a disposition outside of the guidelines. This was first examined statewide. As shown in Figure 7, 15.09% of youth receiving an optimum disposition recidivated within 12 months of completion. This percentage rises to 19.81% among youth who received an appropriate disposition.

Moving to youth who received a disposition outside of guidelines, Figure 7 shows that 39.28% of youth placed above guidelines recidivated, while 28.09% of youth placed below guidelines recidivated. As such, initial evidence is provided that receiving a disposition outside of the guidelines of the disposition matrix is positively associated with recidivism, with youth placed above guidelines faring the worst.[7]

Figure 7. 12 Month Recidivism by Adherence to the Matrix - Statewide

---
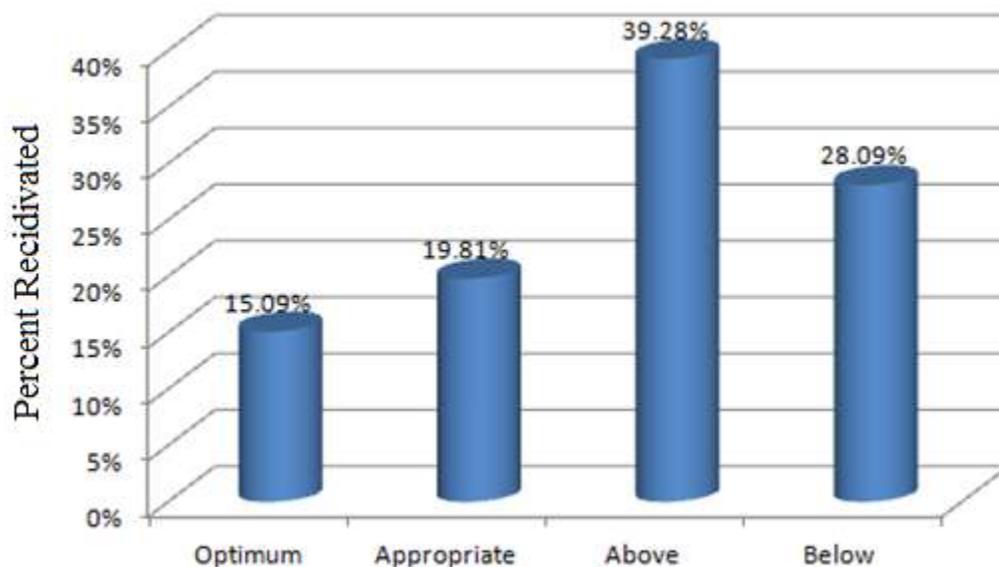
[7] In looking at the pattern in the data from the initial validation study (when restricting the cases to completed dispositions) there are some clear parallels with the current data. First, in the original validation data, 17.13% of youth receiving an optimal disposition recidivated, 20.60% of youth receiving an appropriate disposition recidivated, and 35.65% of youth receiving an above guidelines disposition recidivated. These percentages closely track those in the current data. For youth placed below guidelines, however, the data from the original validation study diverges quite a bit. Specifically, in the original validation study (again, for completed dispositions only), 52.18% of youth who received a below guidelines disposition recidivated, while in the current data that percentage (as shown in Figure 7) is 28.09%. This disparity between the original validation study and the current evaluation warrants attention and will be discussed in Part III of this report.

PACT Risk Level

Having examined recidivism according to adherence to the Disposition Matrix guidelines statewide, the next objective was to examine the implications of adherence to the Disposition Matrix for recidivism across subgroups. This was first examined across PACT risk level. Figure 8 shows that low-risk youth who received a disposition within the matrix guidelines were less likely to recidivate. Specifically, the percent of low-risk youth who recidivated after receiving either an optimum (12.11%) or appropriate (11.89%) disposition was substantively smaller than the percent of low-risk youth who recidivated that received an above guidelines disposition (24.08%). As low-risk youth cannot be assigned a below guidelines disposition, no information is reported for being placed below guidelines.

Moving to youth who scored moderate risk on the PACT, a very similar pattern emerges, where moderate risk youth who recidivated after receiving either an optimum (21.13%) or appropriate (21.20%) disposition was substantively smaller than the percent of moderate risk youth who recidivated after receiving an above guidelines disposition (39.35%). Again, as moderate risk youth cannot be assigned a below guidelines disposition, no information is reported for being placed below guidelines.

Figure 8. 12 Month Recidivism by Adherence to the Disposition Matrix - by PACT Risk

FIU | Steven J. Green School of International & Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY
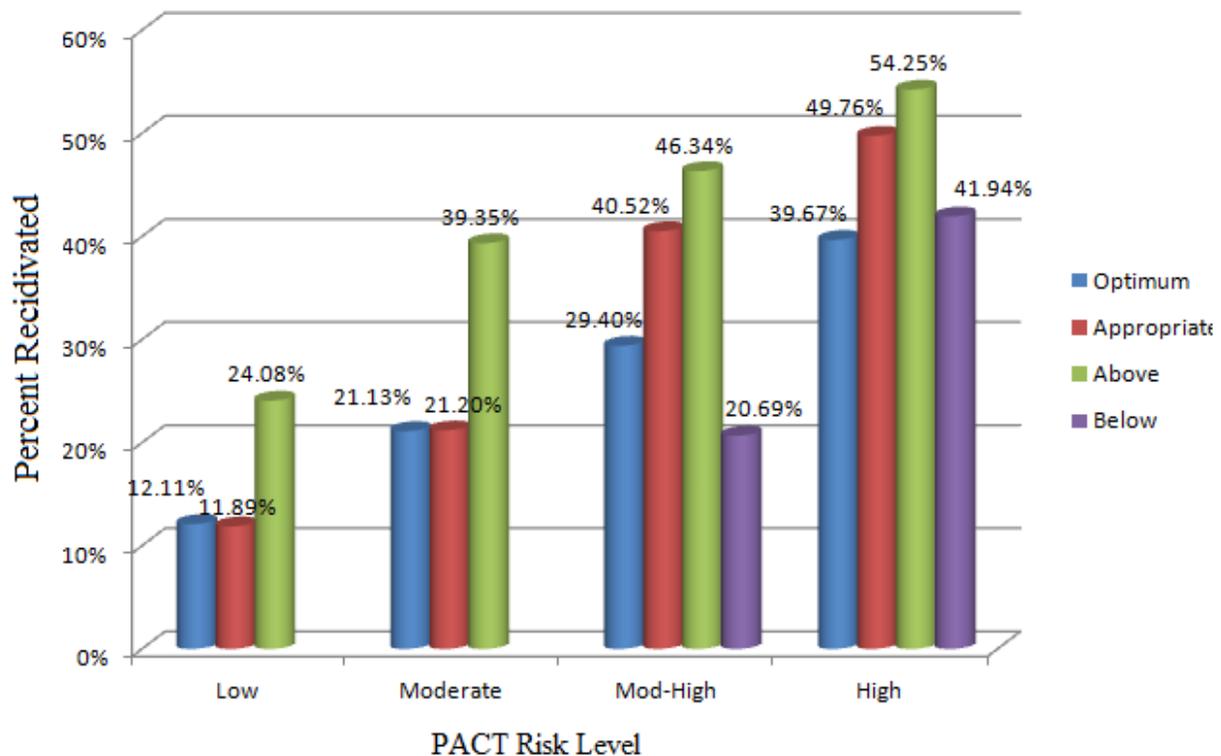
For youth scored as moderate-high risk on the PACT, 29.40% assigned an optimum disposition recidivated. Recidivism was higher for moderate-high risk youth assigned an appropriate disposition (40.52%), and was even higher for moderate-high risk youth assigned a disposition that was above the Disposition Matrix guidelines (46.34%). Contrary to what might be expected, moderate-high risk youth assigned a disposition that was below the Disposition Matrix guidelines were the least likely to recidivate (20.69%). Caution, however, should be taken when interpreting the substantive significance of this given that below guidelines dispositions accounted for only 3.16% (N = 116) of all dispositions for moderate-high risk youth.

For youth scored as high risk on the PACT, those assigned an optimum disposition were the least likely to recidivate (39.67%). Recidivism was higher for high risk youth assigned an appropriate disposition (49.76%), and was higher for high risk youth assigned a disposition that was above the Disposition Matrix guidelines (54.25%). Again, contrary to what might be expected, high risk youth assigned a disposition that is below the guidelines of the Disposition Matrix were only slightly more likely to recidivate (41.94%) than high risk youth assigned an optimum disposition. Caution, however, should again be taken when interpreting the substantive significance of this given that below guidelines dispositions accounted for only 1.66% (N = 62) of all dispositions for high risk youth. As mentioned in footnote four above, this will be further addressed in Part III of the evaluation.

Sex

Figure 9 shows recidivism based on adherence to the Disposition Matrix guidelines separately for males and females. For both males and females, receiving an optimum disposition resulted in the least amount of recidivism (17.87% for males, 9.28% for females).This was followed by receiving an appropriate disposition (21.35% for males, 13.02% for females).

Figure 9. 12 Month Recidivism by Adherence to the Disposition Matrix - by Sex
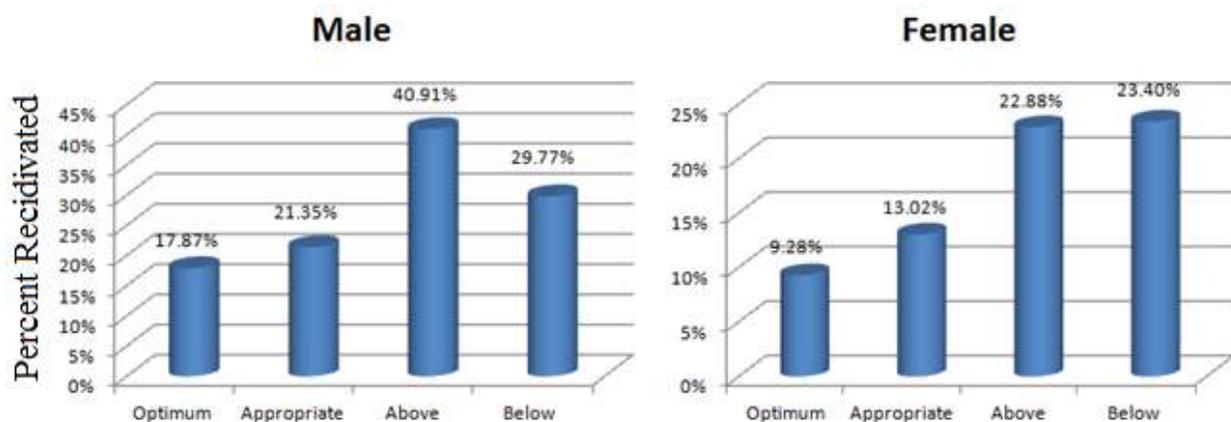
For males, receiving a disposition that was above guidelines resulted in the greatest likelihood of recidivism (40.91%). For females, however, receiving a disposition that was below guidelines resulted in the greatest likelihood of recidivism (23.40%), though receiving a disposition above guidelines resulted in roughly the same likelihood of recidivism (22.88%). As a whole, there is clear evidence that receiving a disposition outside of the matrix guidelines increases risk of recidivism for both males and females, though males are more likely to reoffend in general.

Race/Ethnicity

Figure 10 displays recidivism based on adherence to the Disposition Matrix guidelines by race/ethnicity. For White youth and Hispanic youth there is a clear pattern where receiving either an optimum or appropriate disposition is associated with less recidivism. The percent of White youth who recidivated after receiving an optimum (12.72%) or appropriate (16.62%) disposition is lower than White youth who received an above guidelines (30.06%) or below guidelines (32.79%) disposition. Likewise, the percent of Hispanic youth who recidivated when receiving an optimum (13.12%) or appropriate (16.53%) disposition is lower than Hispanic youth who received an above guidelines (34.22%) or below guidelines (25.00%) disposition.

Figure 10. 12 Month Recidivism by Adherence to the Disposition Matrix - by Race/Ethnicity
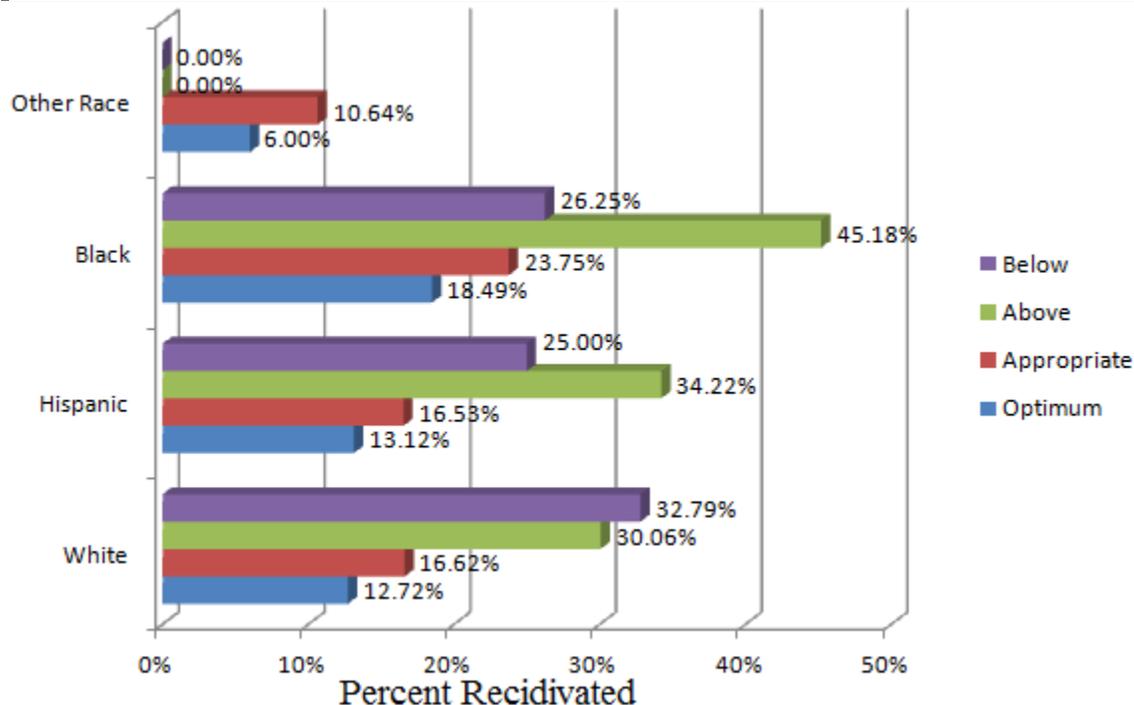
For Black youth, Figure 10 shows the pattern is somewhat different. On the one hand, Black youth who received an optimum (18.49%) or appropriate (23.75%) disposition fared better than Black youth who received either an above guidelines (45.18%) or below guidelines (26.25%) disposition. On the other hand, the difference between Black youth receiving an appropriate disposition relative to a below guidelines disposition was small. Regarding youth categorized as

'Other Race,' the number of youth fitting into this category was so small (N = 354) that the percent of 'Other Race' youth who recidivated is not reliable, as only six 'Other Race' youth received an above guidelines disposition, and only one 'Other Race' youth received a below guidelines disposition.

Circuit

Table 4 displays the percent of youth who recidivated according to adherence to the Disposition Matrix by circuit. When disaggregating the data by circuit the number of youth in each disposition category is quite small for many circuits, but there is a general pattern across the circuits where youth who received an optimum or appropriate disposition were less likely to recidivate than youth who received a disposition that was above guidelines. With regard to dispositions that were below guidelines, only five circuits had more than 10 below guidelines dispositions, making a meaningful comparison across circuits impossible.

Table 4. 12 Month Recidivism by Adherence to the Disposition Matrix - by Circuit

	Optimum	Appropriate	Above Guidelines	Below Guidelines	N
1	13.16%	18.67%	44.44%	33.33%[a]	2824
2	17.03%	17.66%	48.25%	100.00%[a]	1253
3	18.40%	14.18%	14.81%	---------	543
4	15.07%	15.60%	39.02%	33.33%[a]	4377
5	14.24%	22.30%	23.15%	30.77%[a]	3201
6	22.13%	33.96%	46.67%	36.36%	2978
7	16.81%	20.57%	39.34%	28.57%[a]	2464
8	19.31%	21.45%	45.83%	--------	1278
9	12.64%	21.08%	46.73%	0.00%[a]	5140
10	16.77%	22.77%	50.00%	20.83%	4746
11	13.03%	15.49%	33.58%	13.33%	3671
12	14.83%	19.80%	40.54%	25.00%[a]	1673
13	12.82%	22.12%	50.00%	27.78%	5260
14	13.43%	16.61%	30.43%	--------	887
15	18.11%	21.05%	33.33%	33.33%	2914
16	10.81%	10.53%	-------	50.00%[a]	206
17	15.02%	20.69%	34.76%	22.22%[a]	4759
18	15.27%	24.13%	43.64%	28.57%[a]	2454
19	13.20%	15.89%	40.63%	0.00%[a]	2297
20	13.79%	20.98%	41.57%	50.00%[a]	4519

Percentages shown are row percentages; [a] cell N less than 10

Region

Table 5 displays the percent of youth who recidivated by adherence to the Disposition Matrix guidelines by region. Across each region, youth who received optimum dispositions fared the best, followed by those who received appropriate dispositions. In addition, across each region, youth who received a disposition above guidelines were the most likely to recidivate. Youth given a disposition below guidelines were more likely to recidivate than those given an appropriate disposition, but were less likely to recidivate than youth given an above guidelines disposition. These patterns across region are consistent with the statewide pattern reported in Figure 7 above.

Table 5. 12 Month Recidivism by Adherence to the Disposition Matrix - by Region

	Optimum	Appropriate	Above Guidelines	Below Guidelines	N
North	15.29%	18.28%	38.38%	33.33%	16827
Central	15.34%	23.25%	46.35%	28.04%	22251
South	14.60%	18.35%	36.36%	25.00%	18366

Percentages shown are row percentages

Multivariate Basic Models

The above results provide bivariate information about the nature of the association between adherence to the Disposition Matrix guidelines and recidivism across different subgroups of youth. In order to gain a clearer sense of the extent to which adherence to the Disposition Matrix guidelines reduces the likelihood of recidivism, as well as to determine the relative influence of receiving a disposition that is either above or below guidelines, a series of logistic regression models was estimated. In each model, 12 month recidivism is the outcome variable. In the first series of models (the 'basic' models), the following variables were included as predictors: appropriate disposition, above guidelines disposition, below guidelines disposition (optimum is the reference group), age at disposition, Male, Hispanic, Black, Other Race (White is the reference group), presenting offense seriousness, and PACT risk level. After presenting the logistic regression model for all youth statewide, separate models are then presented across the following subgroups: PACT risk level, sex, and race/ethnicity.

For each logistic regression model, the odds ratio is presented, where a statistically significant odds ratio above 1.00 indicates a positive association and an odds ratio less than 1.00 indicates a negative association.[8] For all models, the standard errors have been adjusted to take into account the clustering of dispositions within the 20 circuits across the state.

---

[8] For example, an OR = 1.50 would indicate a 50% increase in the likelihood of recidivism, whereas an OR = 0.60 would indicate a 40% decrease in the likelihood of recidivism.

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

Table 6. Logistic Regression Predicting 12 Month Recidivism - Statewide (N = 57,444)

	Odds Ratio	Standard Error	z-value
Predictors			
Appropriate Disposition[a]	1.10	.05	1.94
Above Guidelines[a]	2.02***	.14	9.91
Below Guidelines[a]	0.72**	.07	-3.29
Age	0.92***	.01	-8.55
Male[b]	1.91***	.07	18.68
Hispanic[c]	1.02	.04	0.39
Black[c]	1.41***	.06	8.21
Other Race[c]	0.49***	.09	-3.84
Presenting Offense Seriousness	0.90***	.02	-4.50
PACT Risk Level	1.76***	.03	37.39
Nagelkerke R-Square		.12	

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed); [a] reference category is optimum; [b] reference category is female; [c] reference category is White; standard errors adjusted for clustering within circuits

Table 6 indicates that receiving an appropriate disposition does not significantly increase the likelihood of recidivism compared to receiving an optimum disposition (though the effect is marginally significant at $p < .06$). Receiving a disposition that was above the guidelines is positively associated with recidivism compared to receiving an optimum disposition. Specifically, a youth receiving an above guidelines disposition was 102% more likely to recidivate than a youth receiving an optimum disposition. With regard to receiving a below guidelines disposition, there is a negative effect. Specifically, youth receiving a below guidelines disposition were 28% less likely to recidivate than youth assigned an optimum disposition. For reasons that are discussed in Part III of the evaluation, this result should be interpreted with caution.

In addition to the relevance of adherence to the Disposition Matrix guidelines for understanding patterns of recidivism, Table 6 indicates that several other variables are also significantly associated with recidivism. Older individuals were less likely to recidivate (OR = 0.92, $p < .001$); Males were 91% more likely to recidivate than females; Black youth were 41% more likely to recidivate than White youth; 'Other Race' youth were 51% less likely to recidivate than White Youth; youth with more serious presenting offenses were less likely to recidivate (OR = 0.90, $p < .001$); and youth who scored higher on PACT risk were more likely to recidivate (OR = 1.76, $p < .001$).[9]

---

[9] The model estimated for Table 6 was also estimated using the original validation data for FY 2010-11 (completed dispositions only). The results of this model are presented in Appendix B for comparative purposes. Of note, receiving an appropriate disposition was not associated with recidivism relative to receiving an optimum disposition, and receiving an above guidelines disposition relative to an optimum disposition was positively associated with recidivism. These results align with the current data. In contrast, a below guidelines disposition was positively associated with recidivism (38% increase). This disparity will be addressed in Part III of the report.

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

PACT Risk Level

Table 7 displays the results of the logistic regression model when disaggregated by PACT risk level. Beginning with the low risk model, youth receiving an above guidelines disposition were 140% more likely to recidivate than youth receiving an optimum disposition, but receiving an appropriate disposition did not increase the odds of recidivating relative to receiving an optimum disposition (OR = 0.97, p >.05). As no low risk youth can be placed below guidelines, no estimate was generated for being below guidelines. Several variables other than adherence to the Disposition Matrix are also associated with recidivism. Age (OR = 0.95, p <.001), 'Other Race,' (OR = 0.45, p <.01) and presenting offense seriousness (OR = 0.84, p <.001) were each negatively associated with recidivism, while being Male (OR = 1.89, p <.001) and Black (OR = 1.47, p <.001) were each positively associated with recidivism.

 Moving to the moderate risk model, youth receiving an above guidelines disposition were 154% more likely to recidivate than youth receiving an optimum disposition, but receiving an appropriate disposition did not increase the odds of recidivating relative to receiving an optimum disposition (OR = 1.03, p >.05). Once again, as no moderate risk youth can be placed below guidelines, no estimate was generated for being below guidelines. Several variables other than adherence to the Disposition Matrix are also associated with recidivism. Age (OR = 0.90, p <.001) and presenting offense seriousness (OR = 0.84, p <.01) were negatively associated with recidivism, while being Male (OR = 1.69, p <.001) and Black (OR = 1.30, p <.001) were each positively associated with recidivism.

Table 7. Logistic Regression Predicting 12 Month Recidivism - by PACT Risk Level

Predictors	Low Risk (N= 44,280)		Mod. Risk (N = 5,758)		Mod-High Risk (N = 3,669)		High Risk (N = 3,737)	
	OR	SE	OR	SE	OR	SE	OR	SE
Appropriate Disposition[a]	0.97	.07	1.03	.07	1.42***	.13	1.27*	.13
Above Guidelines[a]	2.40***	.29	2.54***	.30	1.99***	.25	1.76***	.26
Below Guidelines[a]	-----	----	-----	----	0.50**	.10	0.86	.18
Age	0.95***	.01	0.90***	.02	0.87***	.02	0.77***	.02
Male[b]	1.89***	.06	1.69***	.16	2.20***	.23	2.49***	.26
Hispanic[c]	1.03	.05	1.04	.09	1.01	.14	0.98	.13
Black[c]	1.47***	.07	1.30***	.09	1.52***	.15	1.22*	.12
Other Race[c]	0.45**	.11	1.02	.57	2.63	2.05	0.13	.15
Presenting Offense Seriousness	0.84***	.03	0.84**	.05	1.05	.05	1.00	.05
Nagelkerke R-Square	.03		.04		.07		.09	

* p < .05, ** p <.01, ***p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is female; [c] reference category is White; standard errors adjusted for clustering within circuits

For the moderate-high risk model in Table 7, youth receiving an above guidelines disposition were 99% more likely to recidivate than youth receiving an optimum disposition, and receiving an appropriate disposition increased the odds of recidivating by 42% relative to receiving an

optimum disposition. Youth receiving a below guidelines disposition were 50% less likely to recidivate than youth who received an optimum disposition. Several variables other than adherence to the Disposition Matrix are also associated with recidivism. Age (OR = 0.87, p <.001) was negatively associated with recidivism, while being Male (OR = 2.20, p <.001) and Black (OR = 1.52, p <.001) were each positively associated with recidivism.

For the high risk model, youth receiving an above guidelines disposition were 76% more likely to recidivate than youth receiving an optimum disposition, and receiving an appropriate disposition increased the odds of recidivating by 27% relative to receiving an optimum disposition. High risk youth receiving a below guidelines disposition were no more likely or less likely to recidivate than youth who received an optimum disposition (OR = 0.86, p > .05). Several variables other than adherence to the Disposition Matrix are also associated with recidivism. Age (OR = 0.77, p <.001) was negatively associated with recidivism, while being Male (OR = 2.49, p <.001) and Black (OR = 1.22, p <.05) were each positively associated with recidivism.

Sex

Table 8 displays the results of the logistic regression model when disaggregated by sex. The model for males shows that male youth receiving an appropriate disposition were no more likely to recidivate than male youth receiving an optimum disposition (OR = 1.07, p > .05). Male youth receiving an above guidelines disposition were 99% more likely to recidivate than male youth receiving an optimum disposition. Male youth receiving a below guidelines disposition were 34% less likely to recidivate than male youth receiving an optimum disposition. Several variables other than adherence to the Disposition Matrix are also associated with recidivism for males. Age (OR = 0.93, p <.001), 'Other Race,' (OR = 0.54, p <.05), and presenting offense seriousness (OR = 0.90, p <.001) were each negatively associated with recidivism, while being Black (OR = 1.44, p <.001) and PACT risk (OR = 1.78, p <.001) were each positively associated with recidivism for male youth.

The model for females shows that female youth receiving an appropriate disposition were 30% more likely to recidivate than female youth receiving an optimum disposition. Female youth receiving an above guidelines disposition were 97% more likely to recidivate than female youth receiving an optimum disposition. Female youth receiving a below guidelines disposition were no more likely or less likely to recidivate than female youth receiving an optimum disposition (OR = 1.06, p > .05). Several variables other than adherence to the Disposition Matrix are also associated with recidivism for females. Age (OR = 0.87, p <.001), 'Other Race,' (OR = 0.35, p <.01), and presenting offense seriousness (OR = 0.90, p <.05) were each negatively associated with recidivism, while being Black (OR = 1.29, p <.001) and PACT risk (OR = 1.64, p <.001) were each positively associated with recidivism for female youth.

Table 8. Logistic Regression Predicting 12 Month Recidivism - by Sex

Predictors	Male Youth (N = 40,764)		Female Youth (N = 16,680)	
	OR	SE	OR	SE
Appropriate Disposition[a]	1.07	.06	1.30**	.11
Above Guidelines[a]	1.99***	.16	1.97***	.35
Below Guidelines[a]	0.66**	.08	1.06	.41
Age	0.93***	.01	0.87***	.02
Hispanic[b]	1.04	.04	0.88	.07
Black[b]	1.44***	.06	1.29***	.08
Other Race[b]	0.54*	.13	0.35**	.13
Presenting Offense Seriousness	0.90***	.02	0.90*	.04
PACT Risk Level	1.78***	.03	1.64***	.05
Nagelkerke R-Square	.11		.05	

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is White; standard errors adjusted for clustering within circuits

Race/Ethnicity

Table 9 displays the results of the logistic regression model when disaggregated by race/ethnicity. Due to the small number of 'Other Race' youth, no model was estimated for this subgroup. The model for White youth shows that White youth receiving an appropriate disposition were 11% more likely to recidivate than White youth receiving an optimum disposition. White youth receiving an above guidelines disposition were 75% more likely to recidivate than White youth receiving an optimum disposition. White youth receiving a below guidelines disposition were no more likely to recidivate than White youth receiving an optimum disposition (OR = 1.07, p > .05). Several variables other than adherence to the Disposition Matrix are also associated with recidivism for White youth. Age (OR = 0.93, p <.001) and presenting offense seriousness (OR = 0.86, p <.001) were each negatively associated with recidivism, while being Male (OR = 1.80, p <.001) and PACT risk (OR = 1.81, p <.001) were each positively associated with recidivism for White youth.

Table 9. Logistic Regression Predicting 12 Month Recidivism - by Race/Ethnicity

Predictors	White Youth (N= 23,772)		Hispanic Youth (N = 9,067)		Black Youth (N = 24,251)	
	OR	SE	OR	SE	OR	SE
Appropriate Disposition[a]	1.11*	.06	1.08	.09	1.10	.07
Above Guidelines[a]	1.75***	.16	1.87***	.34	2.20***	.19
Below Guidelines[a]	1.07	.22	0.80	.28	0.52**	.11
Age	0.93***	.02	0.94*	.02	0.91***	.01
Male[b]	1.80***	.06	2.09***	.15	1.96***	.10
Presenting Offense Seriousness	0.86***	.02	0.88*	.05	0.93**	.02
PACT Risk Level	1.81***	.04	1.78***	.06	1.73***	.03
Nagelkerke R-Square	.09		.09		.12	

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is female; standard errors adjusted for clustering within circuits

The model for Hispanic youth shows that Hispanic youth receiving an appropriate disposition were no more likely to recidivate than Hispanic youth receiving an optimum disposition (OR = 1.08, p >.05). Hispanic youth receiving an above guidelines disposition were 87% more likely to recidivate than Hispanic youth receiving an optimum disposition. Hispanic youth receiving a below guidelines disposition were no more likely to recidivate than Hispanic youth receiving an optimum disposition (OR = 0.80, p > .05). Several variables other than adherence to the Disposition Matrix are also associated with recidivism for Hispanic youth. Age (OR = 0.94, p <.05) and presenting offense seriousness (OR = 0.88, p <.05) were each negatively associated with recidivism, while being Male (OR = 2.09, p <.001) and PACT risk (OR = 1.78, p <.001) were each positively associated with recidivism for Hispanic youth.

The model for Black youth shows that Black youth receiving an appropriate disposition were no more likely to recidivate than Black youth receiving an optimum disposition (OR = 1.10, p >.05). Black youth receiving an above guidelines disposition were 120% more likely to recidivate than Black youth receiving an optimum disposition. Black youth receiving a below guidelines disposition were 48% less likely to recidivate than Black youth receiving an optimum disposition. Several variables other than adherence to the Disposition Matrix are also associated with recidivism for Black youth. Age (OR = 0.91, p <.001) and presenting offense seriousness (OR = 0.93, p <.01) were each negatively associated with recidivism, while being Male (OR = 1.96, p <.001) and PACT risk (OR = 1.73, p <.001) were each positively associated with recidivism for Black youth.

Multivariate Comprehensive Models

The next step was to estimate a series of logistic regression models when removing overall PACT risk level and inserting several of the individual PACT risk measures that would be of particular relevance. This was first done for the statewide sample of youth and then across sex and race/ethnicity subgroups.

Table 10 presents the results for all youth statewide. Of greatest interest, youth who received an appropriate disposition were no more likely to recidivate than youth given an optimum disposition (OR = 1.08, p >.05). Youth who received an above guidelines disposition were 70% more likely to recidivate than youth given an optimum disposition. Youth who received a below guidelines disposition were no more likely or less likely to recidivate than youth who received an optimum disposition (OR = 1.02, p > .05). In addition, a variety of other variables in the model are significantly associated with recidivism. Of these variables, three are negatively associated with recidivism: Age (OR = 0.90, p < .001), 'Other Race,' (OR = 0.54, p < .01), and presenting offense seriousness (OR = 0.86, p <.001). On the other hand, Black youth are 38% more likely to

recidivate than White youth. In addition, eight of the PACT risk measures are positively associated with recidivism.[10]

Table 10. Logistic Regression Predicting 12 Month Recidivism - Statewide (N = 57,444)

	Odds Ratio	Standard Error	z-value
Predictors			
Appropriate Disposition[a]	1.08	.05	1.76
Above Guidelines[a]	1.70***	.12	7.36
Below Guidelines[a]	1.02	.12	0.20
Age	0.90***	.01	-11.61
Male[b]	1.96***	.07	20.03
Hispanic[c]	1.01	.04	0.39
Black[c]	1.38***	.05	8.66
Other Race[c]	0.54**	.10	-3.21
Presenting Offense Seriousness	0.86***	.02	-6.31
PACT measures			
Count of Adjudicated Misdemeanors	1.40***	.03	16.33
Count of Adjudicated Felonies	1.41***	.03	17.06
Gang Member	1.29***	.06	5.42
Drug/Alcohol Use	1.12*	.06	2.03
Suicidal Ideation	0.96	.04	-0.91
Trauma History	1.05	.04	1.14
Mental Health Problems	1.13**	.04	3.08
Family History of Imprisonment	1.23***	.04	6.48
Physical Abuse History	0.98	.04	-0.62
Sexual Abuse History	0.97	.08	-0.33
History of Neglect	1.08	.06	1.33
History of Running Away	1.12***	.02	7.96
Antisocial Attitudes	1.36***	.04	11.65
Nagelkerke R-Square	.13		

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is female; [c] reference category is White; standard errors adjusted for clustering within circuits

Sex

Table 11 displays the results of the comprehensive logistic regression model when disaggregated by sex. The model for males shows that male youth receiving an appropriate disposition were no more likely to recidivate than male youth receiving an optimum disposition (OR = 1.06, p > .05).

---

[10] The variable 'antisocial attitudes' is a 4-item averaged measure of the extent to which each youth endorses 1) resentment toward responsible behavior, 2) being proud of antisocial behavior, 3) verbal aggression, and 4) physical aggression ($\alpha = 0.77$).

Male youth receiving an above guidelines disposition were 69% more likely to recidivate than male youth receiving an optimum disposition. Male youth receiving a below guidelines disposition were no more likely or less likely to recidivate than male youth receiving an optimum disposition (OR = 0.98, p > .05). In addition, a variety of other variables in the model are significantly associated with recidivism. Of these variables, three are negatively associated with recidivism: Age (OR = 0.91, p < .001), 'Other Race,' (OR = 0.61, p < .05), and presenting offense seriousness (OR = 0.87, p <.001). On the other hand, Black males are 43% more likely to recidivate than White males. In addition, eight of the PACT risk measures are positively associated with recidivism for males.

Table 11. Logistic Regression Predicting 12 Month Recidivism - by Sex

Predictors	Male Youth (N = 40,764)		Female Youth (N = 16,680)	
	OR	SE	OR	SE
Appropriate Disposition[a]	1.06	.05	1.19*	.10
Above Guidelines[a]	1.69***	.14	1.50*	.26
Below Guidelines[a]	0.98	.13	1.34	.55
Age	0.91***	.01	0.87***	.02
Hispanic[b]	1.05	.03	0.87	.08
Black[b]	1.43***	.06	1.21**	.08
Other Race[b]	0.61*	.15	0.37**	.14
Presenting Offense Seriousness	0.87***	.02	0.82***	.04
PACT Measures				
Count of Adjudicated Misdemeanors	1.42***	.03	1.33***	.06
Count of Adjudicated Felonies	1.42***	.03	1.35***	.05
Gang Member	1.31***	.07	1.12	.14
Drug/Alcohol Use	1.13*	.06	1.07	.14
Suicidal Ideation	0.96	.06	0.96	.08
Trauma History	1.04	.04	1.08	.08
Mental Health Problems	1.15**	.05	1.07	.07
Family History of Imprisonment	1.25***	.04	1.17*	.08
Physical Abuse History	0.97	.04	0.99	.08
Sexual Abuse History	0.91	.11	1.05	.10
History of Neglect	1.08	.08	1.08	.14
History of Running Away	1.14***	.01	1.10**	.04
Antisocial Attitudes	1.30***	.04	1.60***	.12
Nagelkerke R-Square	.12		.08	

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is White; standard errors adjusted for clustering within circuits

The model for females shows that female youth receiving an appropriate disposition are 19% more likely to recidivate than female youth receiving an optimum disposition. Female youth receiving an above guidelines disposition are 50% more likely to recidivate than female youth receiving an optimum disposition. Female youth receiving a below guidelines disposition are no more or less likely to recidivate than female youth receiving an optimum disposition (OR = 1.34,

p > .05). In addition, a variety of other variables in the model are significantly associated with recidivism. Of these variables, three are negatively associated with recidivism: Age (OR = 0.87, p < .001), 'Other Race,' (OR = 0.37, p < .01), and presenting offense seriousness (OR = 0.82, p <.001). On the other hand, Black females are 21% more likely to recidivate than White females. In addition, five of the PACT risk measures are positively associated with recidivism for females.

Race/Ethnicity

Table 12 displays the results of the logistic regression model when disaggregated by race/ethnicity. Due to the small number of 'Other Race' youth, no model was estimated for this subgroup. The model for White youth shows that White youth receiving an appropriate disposition were no more likely to recidivate than White youth receiving an optimum disposition (OR = 1.07, p > .05). White youth receiving an above guidelines disposition were 49% more likely to recidivate than White youth receiving an optimum disposition. White youth receiving a below guidelines disposition were 56% more likely to recidivate than White youth receiving an optimum disposition.[11] In addition, a variety of other variables in the model are significantly associated with recidivism for White Youth. Of these variables, two are negatively associated with recidivism: Age (OR = 0.91, p < .001) and presenting offense seriousness (OR = 0.81, p <.001). On the other hand, White males are 82% more likely to recidivate than White females. In addition, six of the PACT risk measures are positively associated with recidivism for White youth.

The model for Hispanic youth shows that Hispanic youth receiving an appropriate disposition were no more likely to recidivate than Hispanic youth receiving an optimum disposition (OR = 1.03, p > .05). Hispanic youth receiving an above guidelines disposition were 45% more likely to recidivate than Hispanic youth receiving an optimum disposition. Hispanic youth receiving a below guidelines disposition were no more likely or less likely to recidivate than Hispanic youth receiving an optimum disposition (OR = 1.07, p >.05). In addition, a variety of other variables in the model are significantly associated with recidivism for Hispanic Youth. Of these variables, two are negatively associated with recidivism: Age (OR = 0.92, p < .01) and presenting offense seriousness (OR = 0.84, p <.01). On the other hand, Hispanic males are 112% more likely to recidivate than Hispanic females. In addition, seven of the PACT risk measures are positively associated with recidivism for Hispanic youth.

---

[11] Again, for reasons to be discussed in Part III of the evaluation, this result should be interpreted with caution.

Table 12. Logistic Regression Predicting 12 Month Recidivism - by Race/Ethnicity

Predictors	White Youth (N= 23,772)		Hispanic Youth (N = 9,067)		Black Youth (N = 24,251)	
	OR	SE	OR	SE	OR	SE
Appropriate Disposition[a]	1.07	.05	1.03	.08	1.10	.06
Above Guidelines[a]	1.49***	.13	1.45*	.27	1.87***	.17
Below Guidelines[a]	1.56*	.36	1.07	.36	0.74	.17
Age	0.91***	.02	0.92**	.02	0.90***	.01
Male[b]	1.82***	.07	2.12***	.17	2.01***	.09
Presenting Offense Seriousness	0.81***	.02	0.84**	.05	0.89***	.03
PACT Measures						
Count of Adjudicated Misdemeanors	1.45***	.05	1.49***	.06	1.36***	.03
Count of Adjudicated Felonies	1.42***	.04	1.45***	.09	1.40***	.03
Gang Member	1.03	.13	1.27*	.13	1.42***	.13
Drug/Alcohol Use	1.19	.11	1.05	.07	1.07	.04
Suicidal Ideation	0.98	.07	0.88	.11	0.95	.06
Trauma History	1.10	.05	1.03	.09	1.02	.04
Mental Health Problems	1.11*	.05	1.22***	.07	1.13*	.06
Family History of Imprisonment	1.22***	.07	1.30***	.07	1.21***	.05
Physical Abuse History	1.05	.05	0.89	.11	0.92	.05
Sexual Abuse History	0.93	.10	1.18	.17	0.98	.12
History of Neglect	1.01	.06	1.23	.15	1.11	.10
History of Running Away	1.15***	.03	1.10*	.05	1.10***	.02
Antisocial Attitudes	1.32***	.05	1.38***	.10	1.40***	.05
Nagelkerke R-Square	.11		.11		.14	

* p < .05, ** p <.01, *** p <.001 (two-tailed); [a] reference category is optimum; [b] reference category is female; standard errors adjusted for clustering within circuits

The model for Black youth shows that Black youth receiving an appropriate disposition were no more likely to recidivate than Black youth receiving an optimum disposition (OR = 1.10, p >.05). Black youth receiving an above guidelines disposition were 87% more likely to recidivate than Black youth receiving an optimum disposition. Black youth receiving a below guidelines disposition were no more likely or less likely to recidivate than Black youth receiving an optimum disposition (OR = 0.74, p >.05). In addition, a variety of other variables in the model are significantly associated with recidivism for Black youth. Of these variables, two are negatively associated with recidivism: Age (OR = 0.90, p < .001) and presenting offense seriousness (OR = 0.89, p <.001). On the other hand, Black males are 101% more likely to recidivate than Black females. In addition, seven of the PACT risk measures are positively associated with recidivism for Black youth.

Part III: Findings and Recommendations

The purpose of this evaluation was twofold. First, it aimed to examine the extent to which decision-makers within the juvenile justice system have adhered to the recommended guidelines of the Disposition Matrix. Second, it aimed to examine whether youth who received a disposition within the guidelines of the Disposition Matrix fared better, measured in terms of recidivating within 12 months after completion of a disposition, than youth who received a disposition outside of the guidelines. A number of findings emerged that have important implications for the continued use of the Disposition Matrix. This final part of the evaluation reviews the main findings and provides recommendations to consider going forward.

Main Findings

1. The vast majority of dispositions were within the guidelines of the Disposition Matrix.

Of the 57,444 dispositions examined for FY 2012-13 to 2014-15, 96.73% were either optimum or appropriate dispositions according to the guidelines of the Disposition Matrix (Figure 2). Put differently, only 3.27% of dispositions were either above or below guidelines. In contrast, the percent of dispositions outside of guidelines in the original validation study using FY 2010-11 data on completed dispositions prior to the Disposition Matrix being implemented was 6.52%. Thus, it is logical to conclude that the efforts made by the Florida Department of Juvenile Justice to have circuits adopt the Disposition Matrix guidelines statewide since 2013 has prompted decision-makers (probation officers, prosecutors, and judges) to be more mindful about the dispositions given to youth in the state. Furthermore, youth scored as low risk on the PACT accounted for 77% of all dispositions. Of these dispositions, 98.84% were either optimum or appropriate (Figure 3). Again, this reinforces the point that the vast majority of youth in the state are receiving recommended dispositions.

2. A number of legal and extra-legal factors explain why some youth were either more likely or less likely to receive a disposition that was outside of the guidelines of the Disposition Matrix.

A series of bivariate analyses indicated that the likelihood of receiving a disposition that was outside of the guidelines of the Disposition Matrix (particularly a disposition that was above guidelines) is related to PACT risk level, sex, race/ethnicity, and geographic location. First, youth who scored higher on PACT risk were less likely to receive an optimum disposition and more likely to receive a disposition that was above guidelines. Second, males were less likely to receive an optimum disposition and more likely to receive an above guidelines disposition than females. Third, Black youth were the least likely to receive an optimum disposition and were the most likely to receive a disposition that was above guidelines. Fourth, youth in the North region of the state were more likely to receive a disposition that was above guidelines than youth in the Central and South regions. The North region accounted for less than one-third of the dispositions

examined (29.3%), but accounted for over half of the dispositions in the state that were above guidelines (52.9%). A closer examination (Table 1 and Figure 6) indicates that this is largely driven by circuits two and four.

These bivariate patterns largely emerged again in a multivariate model (Table 3). The risk of being placed above guidelines for males was three times greater than for females, and males were also significantly less likely to receive a disposition that was below guidelines. Black youth were approximately 1.7 times more likely to receive a disposition that was above guidelines relative to White youth. It is worth emphasizing that these findings related to sex and race disparities emerged when controlling for PACT risk and the seriousness of the presenting offense.

The multivariate model in Table 3 also showed that youth in either the Central or South regions were significantly less likely to receive a disposition that was above guidelines relative to youth in the North region. Conversely, youth in the Central region were over three times as likely to receive a disposition below guidelines relative to youth in the North region. Increasing PACT risk level was also positively associated with receiving either an above guidelines or below guidelines disposition relative to receiving a disposition within guidelines.

3. Receiving a disposition that was above guidelines significantly increased the likelihood that youth recidivated relative to youth who received an optimum disposition.

Across every bivariate and multivariate model that was estimated (across PACT risk level, sex, race/ethnicity, and geographic location), youth receiving a disposition that was above the guidelines of the disposition matrix were more likely to recidivate relative to youth who received an optimum disposition. Based on all of the multivariate models estimated in Part II of this report, a conservative estimate would be that receiving a disposition that is above guidelines increased the likelihood of recidivism by a minimum of 75%, and several models indicate it could be higher for some subgroups of youth (e.g., Black youth [Table 9]).

4. There is some evidence suggesting that receiving a disposition that was appropriate may have increased the likelihood of recidivism relative to receiving a disposition that was optimum.

This appears to be most likely for youth who scored as moderate-high or high on the PACT. More than 40% of youth scored as moderate-high on the PACT and who received an appropriate disposition recidivated, whereas less than 30% of youth scored as moderate-high on the PACT and who received an optimum disposition recidivated. Likewise, almost 50% of youth scored as high on the PACT and who received an appropriate disposition recidivated, whereas less than 40% of youth scored as high on the PACT and who received an optimum disposition recidivated (Figure 8). Statistically significant effects reflecting a greater likelihood of recidivism when receiving an appropriate rather than optimum disposition were also found in multivariate models (e.g., Table 7).

5. There is limited evidence in the current data to conclude that receiving a disposition that was below guidelines either increased or decreased the likelihood of recidivism relative to receiving a disposition that was optimum.

This is likely a result of the fact that less than one-half of one percent of the 57,444 dispositions, only 178, were classified as below guidelines according to the disposition matrix. Of the 14 different multivariate models estimated, four indicated a reduced likelihood of recidivism when receiving a below guidelines disposition, nine indicated no statistically significant effect, and one indicated an increased likelihood of recidivism. Given the instability in the coefficients for receiving a below guidelines disposition resulting from the very small number of below guidelines dispositions in the data, no firm conclusion can be reached.

It is worth noting the fact that this finding is at odds with the finding that emerged from the first validation study based on the FY 2010-11 data, wherein it was found that receiving a below guidelines disposition was associated with an increased likelihood of recidivism (see Appendix B). Two observations, however, are worth noting. First, the original validation study was conducted in such a way that the Disposition Matrix was fit onto archival data. In other words, for the data that was analyzed in the original validation study, the Disposition Matrix had not yet been implemented. In contrast, almost all of the data examined in the current evaluation was produced after the implementation of the Disposition Matrix in 2013. Second, the fact that, of the 57,444 dispositions examined, only 178 (0.3%) were classified as below guidelines, should be viewed as a positive thing. In the original validation study (completed dispositions only), of the 32,071 dispositions examined, 550 (1.71%) were classified as below guidelines. In other words, and echoing what was stated regarding finding #1 above, it appears that efforts to get circuits throughout the state to adhere to the guidelines of the Disposition Matrix has resulted in a significant reduction in the assigning of below guidelines dispositions. While it may certainly be the case that receiving a below guidelines disposition increases the likelihood of recidivism, this is not something that can be adequately judged in the current evaluation given the very small number of below guidelines dispositions.

6. Younger youth, male youth, and Black youth were significantly more likely to recidivate than older youth, female youth, and youth of other races/ethnicities.

These patterns are to be expected based on past research, but it is worth noting that these findings emerged across every multivariate model estimated, indicating the robustness of these patterns. It is also worth noting that these effects emerged when controlling for adherence to the Disposition Matrix, seriousness of the presenting offense, global PACT risk, and a wide variety of individual PACT risk measures.

FIU | Steven J. Green
School of International
& Public Affairs
FLORIDA INTERNATIONAL UNIVERSITY

7. Several of the individual PACT risk measures are positive, consistent predictors of recidivism.

Across each of the 'comprehensive' multivariate models estimated, count of adjudicated misdemeanors, count of adjudicated felonies, family history of imprisonment, a history of running away from home, and holding more antisocial attitudes were each positively associated with recidivism. In addition, gang membership and a history of mental health issues were each positively associated with recidivism across several of the models estimated.

Recommendations

1. Efforts to promote adherence to the Disposition Matrix guidelines should be continued. In particular, probation officers, prosecutors, and judges should work together to ensure that dispositions match the recommendations provided by the Matrix guidelines. If a negotiated plea is going to result in a youth being placed outside of the recommended guidelines (particularly above guidelines), justification should be provided given the consistent finding that regardless of a youth's demographics, PACT risk level, or seriousness of the current offense, placing a youth above guidelines increases the likelihood of recidivism.

2. Inquiry into the geographic disparity pertaining to above guidelines dispositions and below guidelines dispositions is recommended. That the North region accounted for more than 50% of dispositions classified as above guidelines raises concern about whether the Disposition Matrix is being uniformly applied throughout the state. In addition, even though the total number of below guidelines dispositions was small, findings did indicate that youth in the Central region were significantly more likely to receive a below guidelines disposition.

3. A hand review of a random selection of the 178 dispositions that were classified as below the guidelines of the Disposition Matrix would provide insight into the unique factors that led to this outcome. There could be some limited instances in which placing a youth below guidelines may in fact be in their best interest, but an investigation into such details was beyond the scope of the current evaluation.

4. In light of the finding that an appropriate disposition may increase the likelihood of recidivism, particularly for youth scored as moderate-high or high risk on the PACT, consideration should be given to investigating the *degree* to which an appropriate disposition deviates from the optimum disposition. For example, a moderate-high risk youth with a violent presenting offense who has been placed on probation supervision (3a) in the past would be optimally placed if he or she received probation enhancement (3b). This would mean that a disposition of probation supervision (3a), Day Treatment (3c), non-secure residential confinement (4), and secure residential confinement (5) would all qualify as appropriate dispositions according to the Matrix. There may be important implications for recidivism, however, between an appropriate disposition that keeps the youth in the community (i.e., Day Treatment [3c]) versus one that sends him or her to a residential program (4 or 5).

5. To improve the predictive validity of the Disposition Matrix with regard to recidivism, consideration should be given to examining whether interactive effects exist between adherence to the Matrix guidelines and other known correlates of recidivism. For example, the results of both bivariate and multivariate analyses suggest the possibility that the effect of receiving an above guidelines disposition on recidivism may be stronger for Black youth relative to White youth (see Figure 10 and Table 9). While it was beyond the scope of the current investigation to explore interactive effects, this would seem to be a next logical step to identifying the conditional nature of the effect that adherence to the Disposition Matrix has on recidivism.

Appendices

Appendix A. Multinomial Logistic Regression Predicting Dispositions Outside of Matrix Guidelines for FY 2010-2011 (completers only) - Statewide (N = 32,071)

	Relative Risk Ratio	Standard Error	z-value
Within Guidelines (Optimum or Appropriate) is Base Comparison			
Panel 1: Above Guidelines			
Age	1.31***	.04	9.07
Male[a]	2.31***	.25	7.90
Hispanic[b]	1.01	.11	0.10
Black[b]	1.33**	.15	2.60
Other Race[b]	1.39	.48	0.96
Central[c]	0.29***	.07	-5.16
South[c]	0.42***	.12	-3.12
PACT Risk Level	1.66***	.10	8.16
Presenting Offense Seriousness	1.18	.12	1.60
Panel 2: Below Guidelines			
Age	0.52***	.01	-27.04
Male[a]	0.78*	.09	-2.22
Hispanic[b]	0.85	.19	-0.71
Black[b]	0.88	.11	-1.02
Other Race[b]	1.62	.65	1.19
Central[c]	1.72*	.38	2.43
South[c]	1.10	.29	0.76
PACT Risk Level	9.03***	.75	26.43
Presenting Offense Seriousness	0.97	.10	-0.30
Nagelkerke R-Square	.28		

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed); [a] reference category is female; [b] reference category is White; [c] reference category is North region; standard errors adjusted for clustering within circuits

FIU | Steven J. Green School of International & Public Affairs

FLORIDA INTERNATIONAL UNIVERSITY

Appendix B. Logistic Regression Predicting 12 Month Recidivism for FY 2010-2011
(completers only) - Statewide (N = 32,071)

	Odds Ratio	Standard Error	z-value
Predictors			
Appropriate Disposition[a]	0.99	.05	-0.28
Above Guidelines[a]	1.62***	.15	5.17
Below Guidelines[a]	1.38**	.14	3.13
Age	0.99	.02	-0.53
Male[b]	1.88***	.06	19.80
Hispanic[c]	1.00	.06	-0.02
Black[c]	1.34***	.07	5.95
Other Race[c]	0.97	.25	-0.10
Presenting Offense Seriousness	0.85***	.02	-7.47
PACT Risk Level	1.86***	.04	32.63
Nagelkerke R-Square	.14		

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed); [a] reference category is optimum; [b] reference category is female; [c] reference category is White; standard errors adjusted for clustering within circuits