Executive Summary:

Residential Treatment Impact and Client Outcomes

2019

Descriptive and Inferential Analysis of the Treatment Impacts and Client Outcomes based upon all program discharges from January 1, 2014 – December 31, 2018

MATHOM HOUSE
EASTON MANOR
PATHS

PREFACE

Since 2008, Edison Court has undertaken a clinical evaluation logic model which seeks to maximize the benefit to clients and their communities by conscientiously monitoring and improving our clinical service delivery to individuals, families, and the broader community. A resultant attempt has been made to continually improve annual treatment impact and treatment outcome data collection and analysis processes, with an ultimate goal of providing psychological care that is data-driven, effective, and held to the standard of best clinical practices.

ABSTRACT

For the current investigation, residents discharged from both Mathom House (*n = 122*) and Easton Manor (*n* = 50) from January 1, 2014 until December 31, 2018 contributed to a descriptive and inferential analysis of *Demographic*, *Offense*, *Neuro-Cognitive*, *Personality*, *Diagnostic*, *Experiential*, *Interventional*, *Recidivistic*, *Discharge Status*, and *Community Readiness* variables, as well as that for compared pre-treatment and post-treatment measures of general psychological functioning and sexually-problematic specific risk and protective factors to glean data reflective of treatment impact upon served clients. A third residential affiliate, PATHS, serving pre- and younger adolescents, opened on June 23, 2017. Data collection has begun for eventual inclusion to this ongoing study, but a minimal number of discharges (10) has yet to be reached to provide adequate robustness to the data.

Multiple psychological measures and analytic tools suggested a statistically and clinically significant benefit to served clients within residential programming with regard to most of the primary treatment targets of reducing recidivism risk level, and dynamic improvements in measures that reflect interpersonal effectiveness and criminogenic attitudinal approach. Clients' quality of life and recidivism outcomes are discussed in detail, including the clinical implications of identified demographic, risk, and treatment impact factors. Promising predictive factors related to client outcomes and actual client recidivism are explored.

For a comprehensive description of our Residential Research Process, please refer to the ECI Clinical Data Collection Process & Research Protocol: Residential Services.

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SUMMARY OF FINDINGS AND IMPLICATIONS

Recidivism-Related Findings

Disclaimer: Low base rates of reported and convicted recidivism across research contexts supports the utility of qualitatively conceptualizing each recidivism case, including collection of the unique needs and challenges that these specific recidivists posed while in treatment.

- **Residential treatment at Mathom House occasioned statistically and clinically significant reductions in overall sexual recidivism risk levels at a longitudinally consistent 10% decrease in possible risk factors for the average client who successfully completes treatment. This average score change continues (as it has over past investigations) to represent a shift from 'Moderate' Risk (Pre-Treatment) to 'Low-Moderate' Risk (Post-Treatment) for the average graduate.** *See Figure 15 (p.20) & Table 7 (p.26).*

- **An additional, notable reduction in recidivism risk (e.g. as determined by the ERASOR assessment) was found for clients continuing treatment at Easton Manor, represented by a 27% reduction in remaining risk variables (10% of total risk factors).** *See Table 11 (p. 39) & Figure 46 (p.49).*

- **Annual Post-Hoc Analyses have suggested that longer lengths of stay may help in lowering sexual recidivism risk, with modest correlations historically gleaned (corr.= .11-.29).**
- **With regard to recidivism statistics, the current sample from Mathom House under investigation committed post-treatment sexual offenses at a rate of 2.65%, and non-sexual offenses at a 11.5% rate (5 year) post-discharge. Our measurement at the 5 year-interval offers longer-term information that appears to suggest more relevance for programs, based upon our prior finding that a 2-year interval offers deflated recidivism rates (all crime types).** *See Figure 13 (p.16).*
- **A 0% reported sexual recidivism rate was gleaned for the last 5 years of Easton Manor discharges.**
- **Response Inhibition (impulse control) was found to be positively related to end-of-treatment recidivism risk, suggesting that youth who are naturally more planful may have more resilient risks at the point of discharge.**

- **Program Completers' recidivism rates were overall lower than those of their non-completer counterparts, but the risk of over attributing a treatment effect exists given the assumption that non-completers tend to possess a higher criminogenic**

predisposition that accounts for both treatment failure and failure to abstain from criminogenic continuation post-discharge. *See Post-Hoc C (p.17); Table 9 (p.38).*

- **Stage of Change measures from pre-treatment to post-treatment indicates a median shift of two levels (e.g. from *contemplation to action)*** *See Post-Hoc E. (p.23).*

- **Positive versus negative experiences with significant parent figures seem related to the degree to which behavioral coping deficits (internalizing, externalizing) respond to treatment** (table 6, p.25)**. Specifically, It appears that individuals with a poor history of positive adult relationship(s) stand to benefit more from treatment in the way of Internalization, and may show increased movement through the stages of change; Witnessing adult violence and Full Scale IQ set up clients to more benefit from treatment in the way of Externalization.**
- **A Moderate correlation exists between historical force in offenses and a treatment benefit in Externalization, as well.**

- **At Easton Manor, a novel finding included that cognitive ability is positively related to financial management skill, but inversely related to occupational functioning (e.g. getting and maintaining a job).**

Reasonable Attributions to Treatment

- **Statistically significant improvement in clients' Emotional Regulation is noted from the current analysis. This now represents a continued finding and has occurred co-occurring with the commencement of Dialectical Behavior Therapy (DBT) 'skills' interventions.** *See Table 3 (p. 18).* **Art Therapy, Life Skills Curriculum, EMDR, and Relaxation Group participations have been associated with positive changes in Emotional Regulation.**

- **A statistically significant reduction in Cognitive Distortion use following treatment represents a stable finding, ostensibly a reflection of our Cognitive-Behavior Therapy (CBT) approach that predominates. Past findings that indicated marginal, non-significant improvements in this important area suggest the value of ECI's continued vigilance in multi-context addressment of clients' 'Thinking Errors' and Schemata that inhibit their potentials.** *See Table 4 (p. 18) & Figure 18 (p. 22).*

- **Continued findings of clients' improvement in their Functional Empathy (Helpful Responding to Others) ostensibly reflects the reinforced expectation that clients**

support each other, in both clinical and residential/milieu contexts, among other treatment variables.

- **Anger Management Module involvement has now been associated with gains in this skill area (an improvement of 23% in empathic responding).**

- **Continued Improved ratings of Internalization were noted for individuals who received Art Therapy and/or Yoga interventions. Boy's Council, and the Traumatic Stress Group participations are also attributable to this result, based upon the current analysis.**
- **For the second year running, Art Therapy participants were also more likely to evidence reductions on the measure of Externalizing (acting out).**
- **A novel finding this year was the connection identified between participants of the Social Skills Module and an increase in Family Involvement scores. Also, Family Functioning improved, for the first time, to near significant levels.**
- **A correlation between higher reductions of overall sexual recidivism risk levels was noted for participants of the Anger Management Module as well as the Life Skills Curriculum.**

- **At Easton Manor, efforts toward Increasing proximal skills and motivation for a subset of clients who struggle to seek and/or secure employment are underway that may foster an interest in or understanding of occupational requirements. Based upon the data, opportunities to develop Financial Management skills might need to occur even in cases wherein a client is not or cannot secure employment.**
- **Continuation of treatment at Easton Manor has consistently yielded treatment gains for Mathom House graduates with regard to reducing overall sexual recidivism risk level, and this year an equivalent reduction is noted when comparing both programs.** *See Table 8 (p. 30) & Figure 46 (p.49).* **Level of Cognitive Distortion also benefited from treatment at Easton Manor** (Table 10, p.39).

Age at Admission and Treatment Duration

- **Continued findings indicate improved discharge outcomes for younger clients, it also appears that clients who are older at time of admission may take longer to complete treatment at Mathom House. This finding is not particularly robust, and deserves continued measurement in the context of clinical concurrence that younger teens are better able to accommodate and assimilate treatment-born interventions.** *See Post-Hoc G (p.28).*

Diagnostic Considerations for Treatment Planning

- Recognition of the high frequency of clients diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and Posttraumatic Stress Disorder (PTSD) indicate the high relevance of ensuring that medication, trauma-informed care, and behavioral planning are utilized, as indicated, to address the core neuropsychological assumptions of both disorders (understimulation and hyperarousal, respectively).
- Reflecting neurological predisposition of our treatment population, diminished *processing speed* continues to appear to be a hallmark feature of our subpopulation. When combined with our findings of relatively weak response inhibition (impulse control) for our population, it is inferred that there are tendencies toward executive function deficits in those who commit sexual offenses. Diagnostic reflection of these phenomena is represented in our clients' *extremely* high rates of ADHD (58%).

- As antisocial personality traits occurring within our treatment population most commonly reflect a traumatic history as opposed to a psychopathic interpersonal agenda and features (e.g. to harm and/or control others, lack of empathy), mildly criminogenic clients tend to predominate within our residential program. Those with truly psychopathic traits will likely be placed within Mathom House's 'Conduct Track', as opposed to the 'Trauma Track' in which a majority of high-scorers for 'Antisocial' would most likely be placed. The tracks differentiate treatment program curricula, based upon a given individual client's needs.

- Representing a shift in our population, approximately 77% of residents receive specialized instruction via an IEP. Similarly, a comprehensive conceptualization of each client's worldview/schemata, undertaken by the individual clinician, informed by knowledge of the existence of learning problems and diagnoses should be standard practice.

Findings Related to Client Outcomes at Discharge

- In terms of program graduates moving to less-restrictive residences, statistics have generally remained steady, with note that a rate increase to nearly 60% was seen for immediate home discharges from Easton Manor. This is seen as a positive shift. Kinship discharge locations have been on the increase, continued in the current analysis.

Additional Findings and Quantitative Representations are found on pp. 9–30; pp. 32-49.

RESEARCH LIMITATIONS

1) **This year's data collection involved, for the first time, multiple spreadsheet managers; a primary benefit included the sharing in the responsibility of such a wide scope of collection and coding tasks, with reasonable and mostly corrected issues emerging, related to data collection process and value coding.**

2) **Due to an increase in the stringency with which the state of Pennsylvania protects juvenile criminal records, our agency (and every other agency) no longer may receive misdemeanor findings for adolescents who had not otherwise committed felonious acts via the Juvenile Court Judges' Commission (JCJC). For our sample, this change is now reflected in our ability to only access full criminal records for the sake of recidivism analysis in cases of discharged residents who had committed felonious acts, with an anticipated 'deflation' effect for our recidivist counts (specific to misdemeanor-only cases).**

3) **An anticipated increase in robustness of personality assessment data is anticipated for the upcoming (2020) analysis, which will provide for an entirely added domain of variable relationships, along with accompanying clinical implications.**

CLINICAL IMPLICATIONS

- **With two consecutive years of analyzing the possible impact of specific therapeutic interventions on specific treatment targets, repeated findings this year serve to strengthen the hypothesis of causal attribution. It is suggested that those interventions which are continually associated with greater therapeutic gains be afforded more deliberate application within treatment curriculi, to the related targets.** *See Table 7, p. 27.*

- **Considering an identified subgroup of clients evidencing significantly low Self Esteem, clinical attention, beit in the form of primary psychotherapy sessions, group therapy, or targeted therapeutic modules, appears indicted. Currently, our array of interventions specific to Self Esteem deficits include: Positive Reinforcement Covert Conditioning; Normalizing Community Experiences, and Cognitive Behavioral Therapy (CBT) targeting negativistic beliefs about self. Along with an empirical review of effective interventions targeting Self Esteem, enhancement of self efficacy through structured role-plays/skill mastery, and ways of bolstering our Strengths-Based approach are to be considered.**

- **A recent decrease noted in the clinical impact on the target of *Sexual Preoccupation* may at least partly attributed to a recent (2018) shift away from interventions related to this variable, with a subsequent (2019) reinstatement of such targeted interventions having occurred. Nonetheless, as a multi-faceted variable of interest, it is recommended that we address the following:**
    - **Operationalize the construct of 'Sexual Preocupation' to increase the reliability and validity of data collection and interpretation**
    - **Review the evidence based approaches that include components of mindfulness, covert counterconditioning, medication management, as well as the potential role that the *psychosexual dynamics group* might play in addressing this variable**
    - **Examine our finding of clients generally remaining 'Status Quo' from pre-treatment to post-treatment, to determine whether base rates (e.g. low preoccupation to begin with) may preclude room for improvement by treatment end.**

- **At Easton Manor, Emphasizing Community Re-entry objectives that include Occupational Functioning and Financial Functioning, given the baseline data that many clients do not have the opportunity to work in a formal setting during their relatively short residence there. In addition to bolstering our current support of interviewing skills and time management skill development, actual and simulated money management training for both working and non-working clients, respectively, would be benficial.**

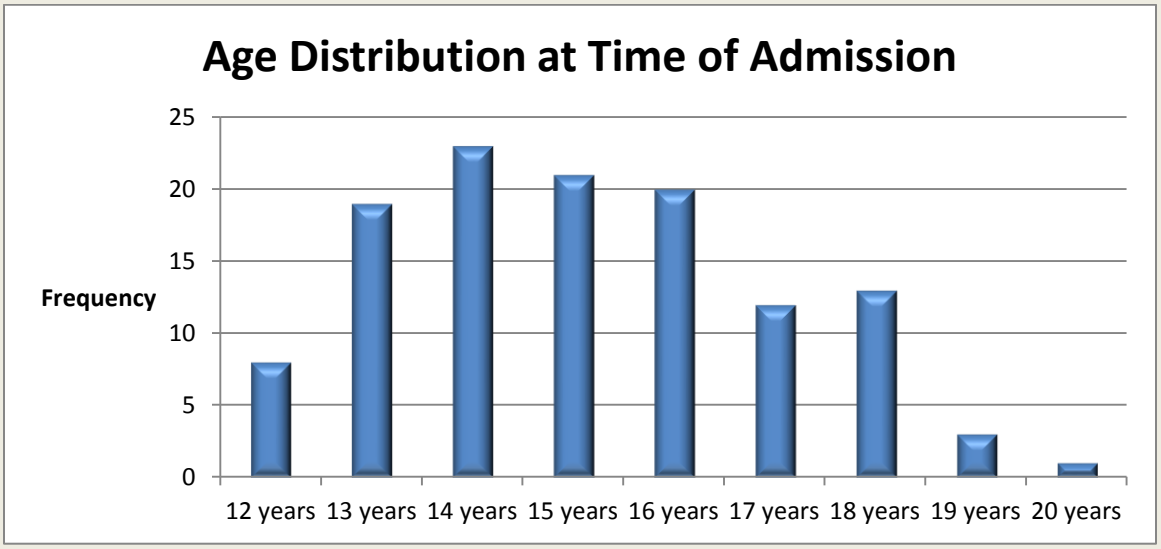
Executive Summary, Part I:

2019

Residential Treatment Impact and Client Outcome Analysis: Mathom House

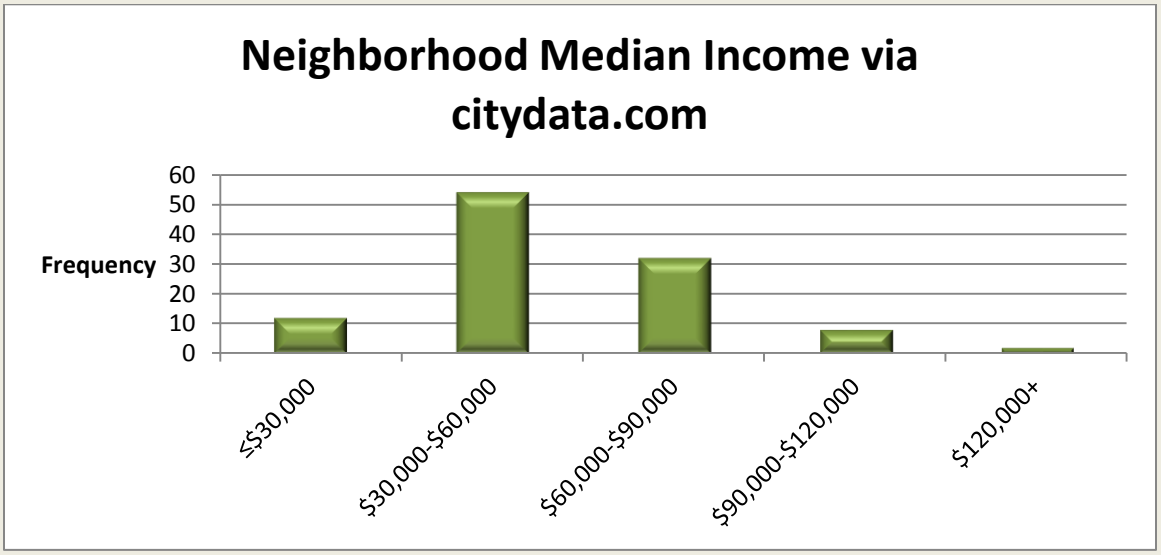
CLIENT DEMOGRAPHICS

Figure 1. *N = 120*



Age, measured in days, indicates an average age at admission of 15.6 years, based upon the most recent five years of discharged clients (2014-2018). This represents no change in the average age of new residents over the past year.

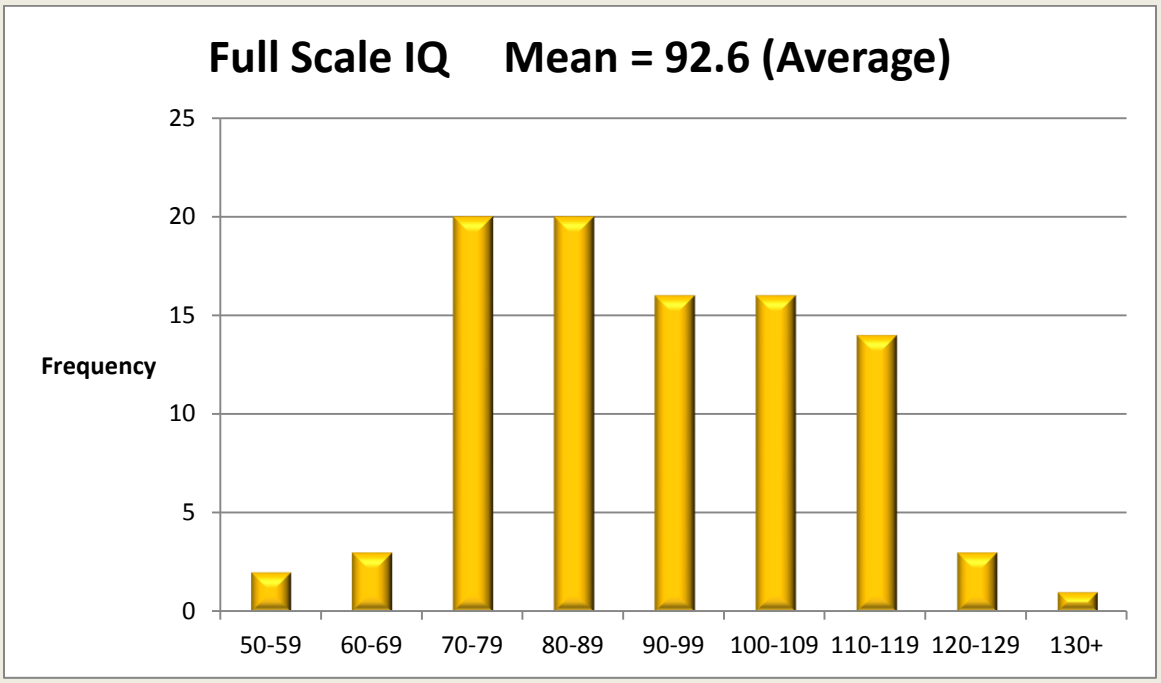
Figure 2. *N = 108 (Other Income Data not available)*



Median neighborhood income was gleaned using data from citydata.com for the past five years of clients served at Mathom House. Our sample is fairly representative of the income distribution found in Southeastern Pennsylvania. Approximately 70% of our clients hale from 'working' or 'middle' class neighborhoods as defined by incomes between $30,000-$90,000. Mean neighborhood annual income = $56,147

Neurocognitive Profile

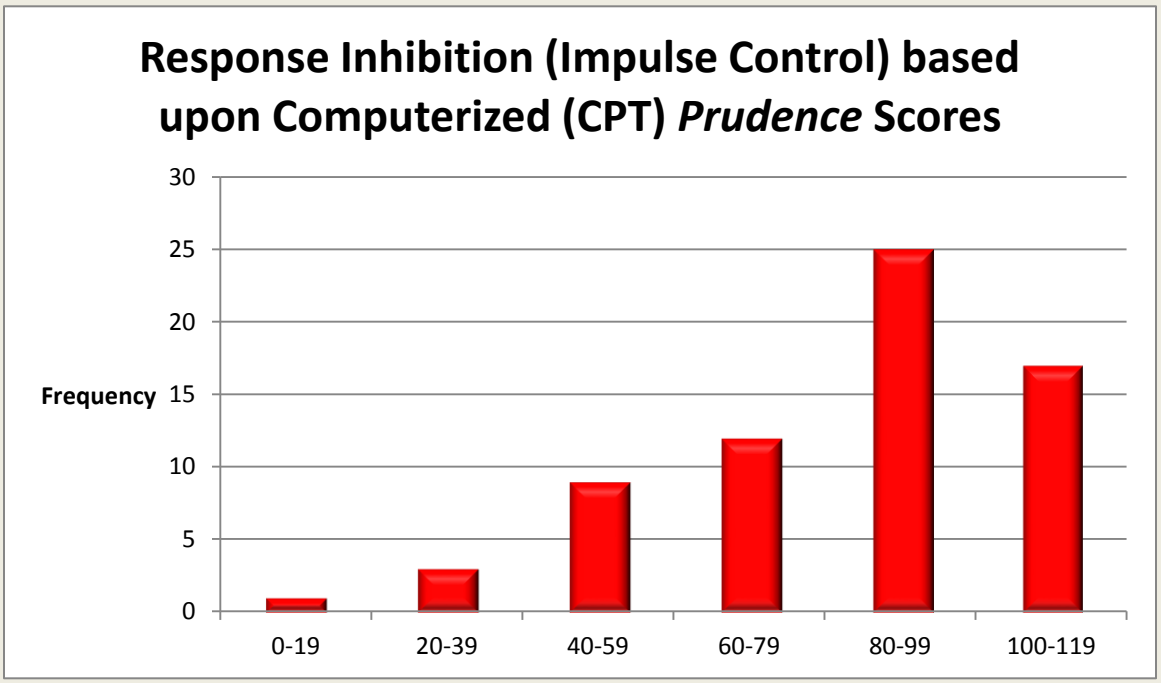
Figure 3. *N = 95 (progressively increased data capture since 2012)*



Standard Deviation = 16

Figure 4. *N=67 (progressively increased data capture since 2012)*

Average = 81.9 (Low Average); Standard Deviation = 24



Post-Hoc A. *N=85* **Perceptual Organization Index scores (WISC-IV, WISC-V) Predict Treatment Completion.**

Regression Model

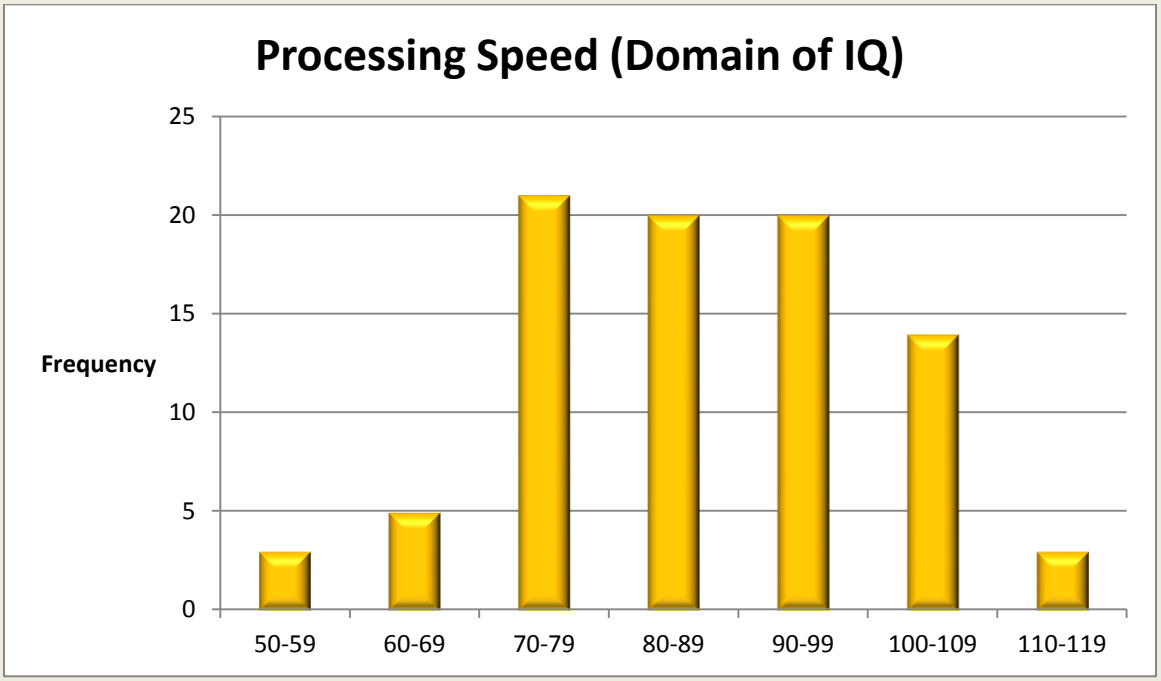
Classification Table

Observed	*Predicted*		
	Treatment Completion		*Percentage Correct*
	Non-Completers	Completers	
Step 1			
Treatment Non-Completers	5	17	22.73
Treatment Completors	4	59	93.65
Overall Percentage			75.29

Variables in the Equation

		B	*S.E.*	*Wald*	*df*	*Significance*	*Exp(B)*
Step 1	*POI*	.07	.02	12.03	1	.001	1.07
	Constant	-5.18	1.76	8.65	1	.004	.01

Figure 5. *N = 86 (progressively increased data capture since 2012)*



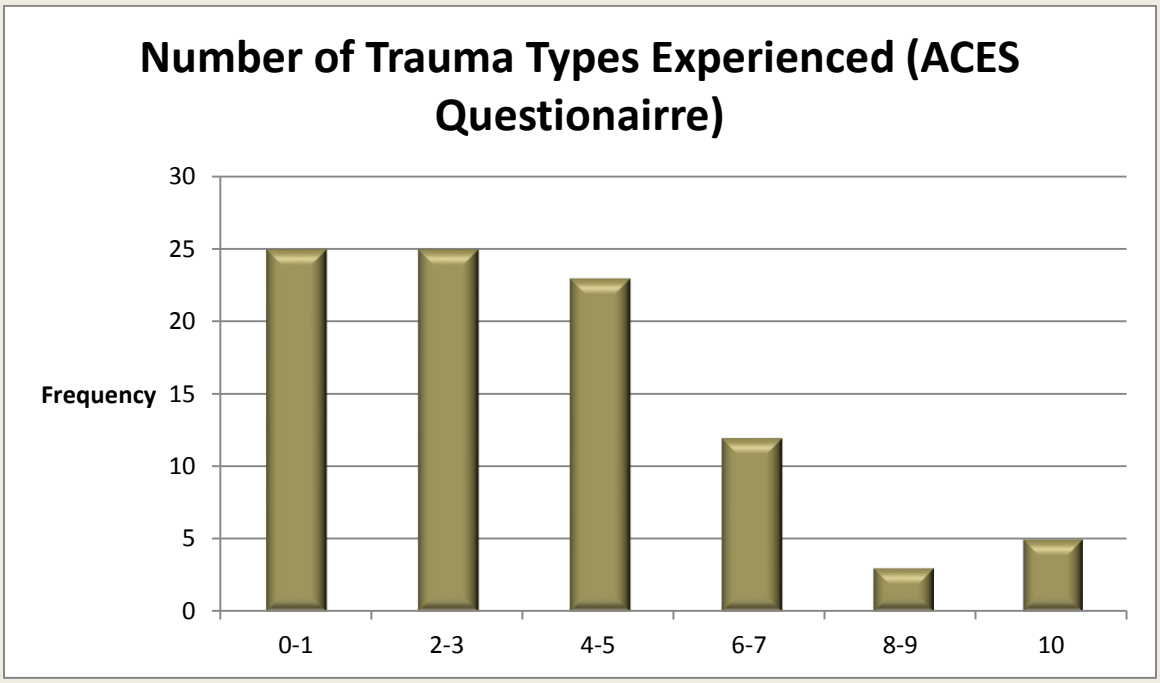
Mean = 86.9; Standard Deviation = 13

Neurocognitive profiling of our clients, for the first time since measured, suggests a notable skew from that of a normal distribution curve to that of a positive skew centered upon Low Average cognitive ability (Figure 3, p.10). Of note is the repeated finding of below average Processing Speed, this year again evidencing a mean score within the Borderline range (SS=86.9; 18th percentile) for our subpopulation (Figure 5, p.11) representing a statistically unlikely phenomenon that is significant at the p<.01 level (Table 1). Additionally, our clients are continually found to have Low Average response inhibition (impulse control), based upon computerized continuous performance testing, further suggesting deficits in Executive Functioning for our clients.

Table 1. *N=86 One*-Sample T Test differentiating Our Population from the Normative Population

	Test Value = 100.00					
	t	*df*	*Sig. (2-tailed)*	*Mean Difference*	95% Confidence Interval of the Difference	
					Lower	*Upper*
Processing Speed Index	-8.85	85	**>.01**	-13.06	-16.00	-10.13

Figure 6. *N = 93*



On average, the number of different types of childhood trauma experienced by our clients is 3.6, a continued diminution that is attributed to more recent program discharges presenting with fewer trauma types (without implication to trauma severity). Our statistic remains above normative expectation (baseline median trauma types=0; mean=1), and represents a risk factor in the short and long-term quality of life for our

clients, as has been well documented in the literature. An increase in ceiling effect is noted (clients who had experienced all 10 trauma types).

Figure 7. *N=98 (progressively increased data capture since 2012)* **Specific to sexual victimization, one-half (48%) of our clients have experienced sexual abuse (based upon available clinical and historical data).**

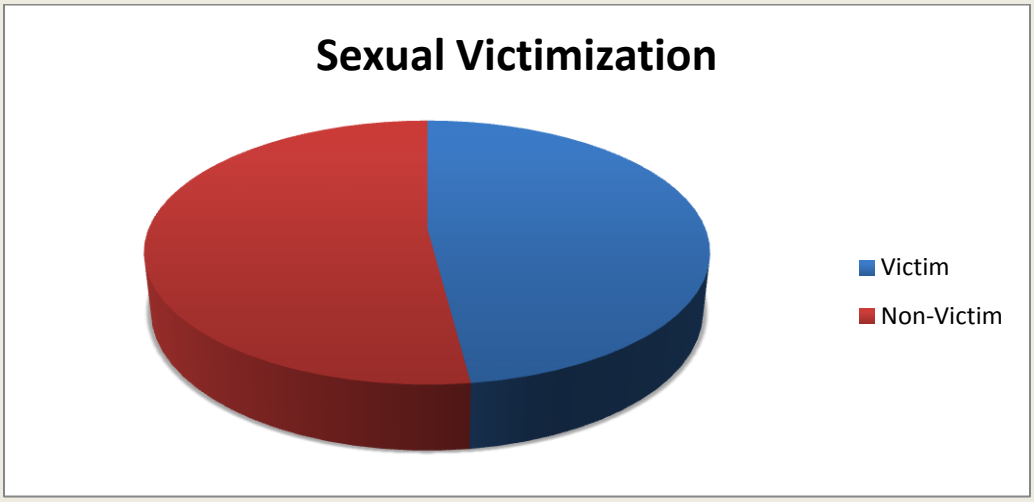
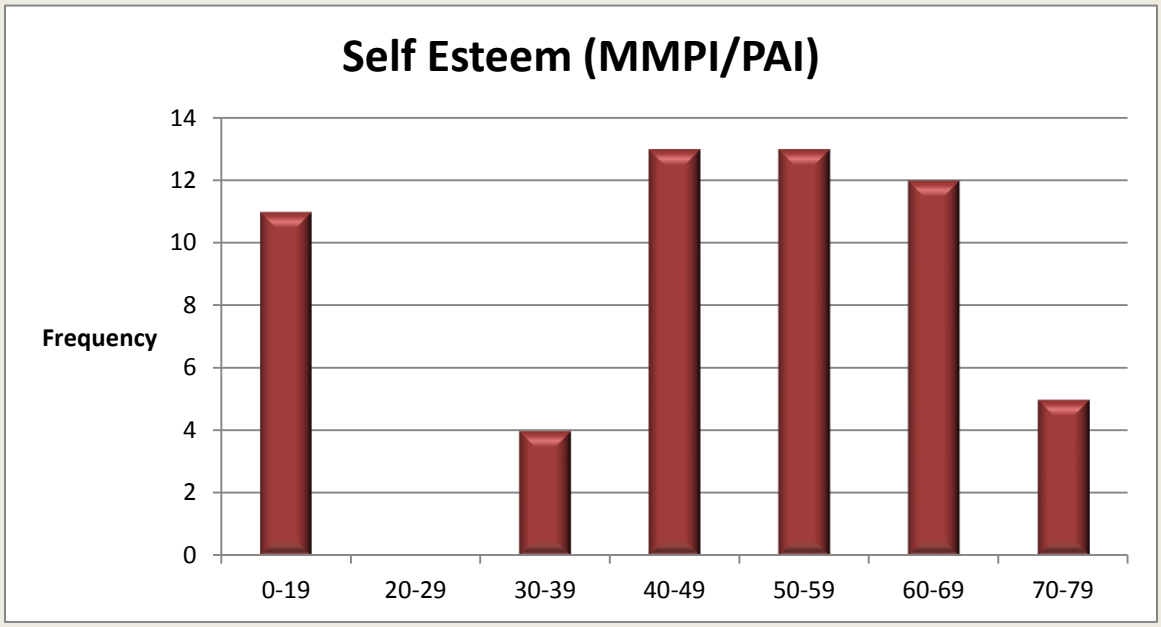


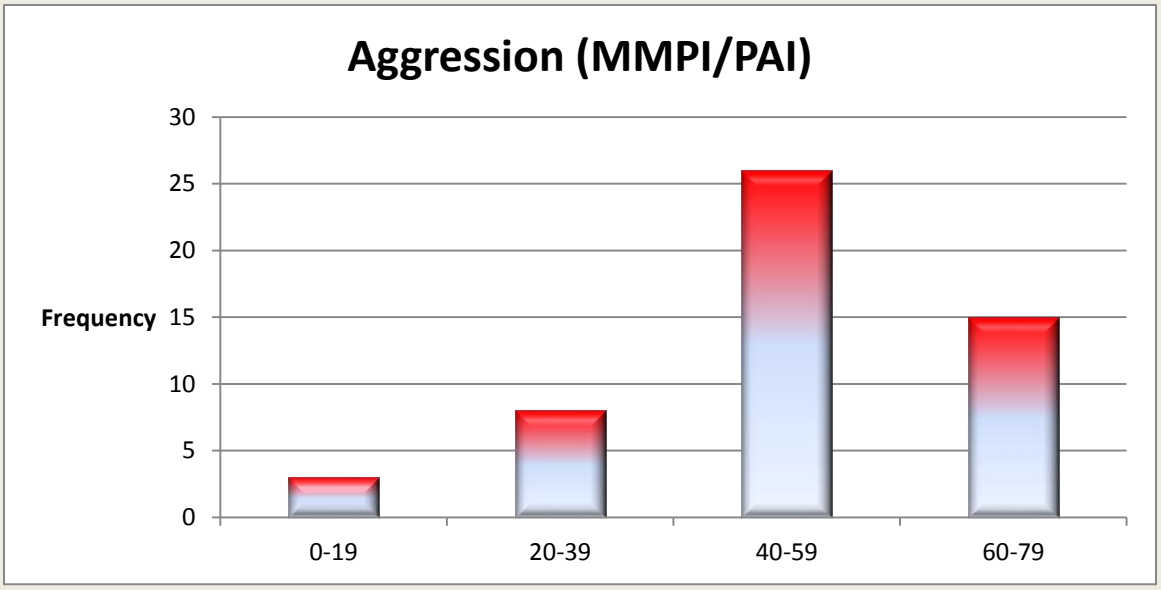
Figure 8. *N=61*



Note: Higher T scores represent higher self-esteem (average T score = 50; SD = 10)

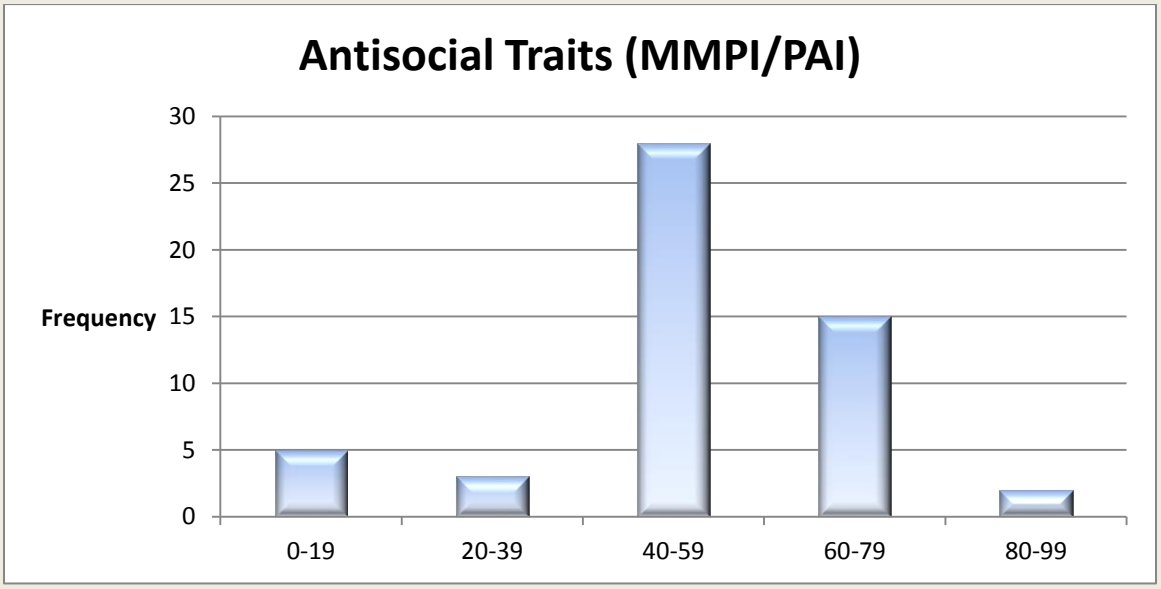
Based upon subscales of the MMPI-2, MMPI-A, PAI, and PAI-A, near-average levels (*n=46)* of Self Esteem are suggested for our subpopulation (Figure 8). A sub-group of low-scorers is noted.

Figure 9. *N = 52*



For the personality trait of Aggression, as gleaned from the aforementioned personality measures, a modal non-aggression is suggested, with 29% of the sample falling in either Elevated or Clinically Significant categories (χ=49.0).

Figure 10. *N = 54*



A modal finding for Antisocial personality traits was found for our recent client population (2014-2018) with non-clinical and clinical subgroups noted (Figure 10). The mean score was 52.2 (Average) reflects meta-analytic findings that have differentiated the sexually problematic subset of juvenile clients from their generally higher-scoring delinquent counterparts with regard to findings of antisocial personality characteristics.

Diagnostic Tendencies

ADHD and PTSD represent the diagnoses most commonly given to our clients at the time of program admission. With general population rates of 4% for both conditions (12-month prevalence of PTSD), our clients are approximately 13 and 7 times more likely to fall into these categories, respectively, than is the general population. Both also imply distinct neurological implications.

Figure 11. *N = 106*

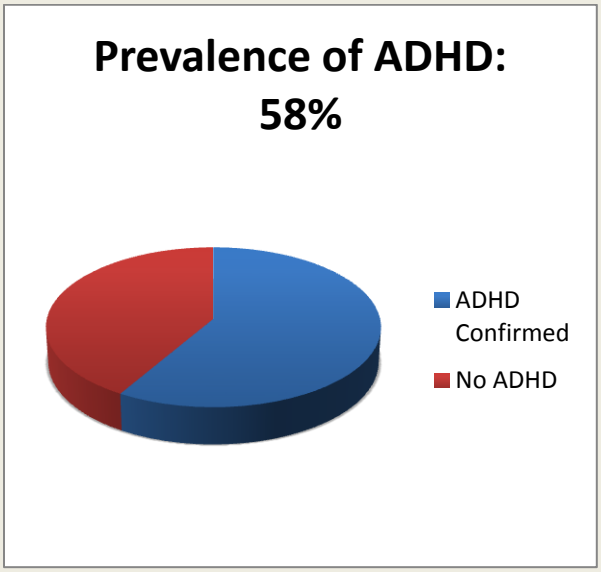


Figure 12. *N = 105*

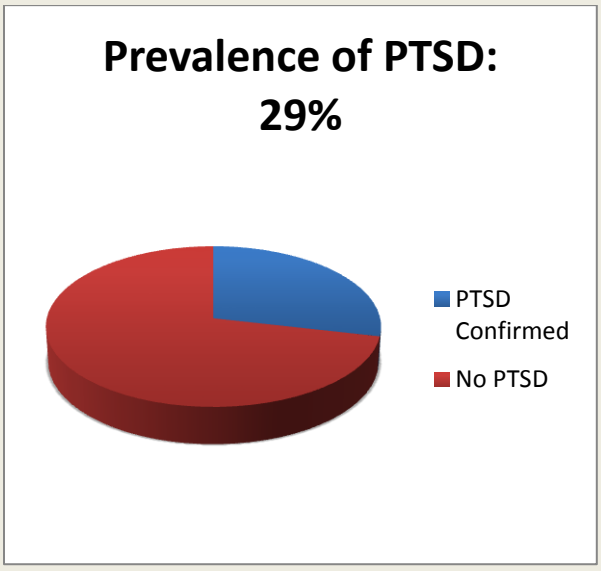
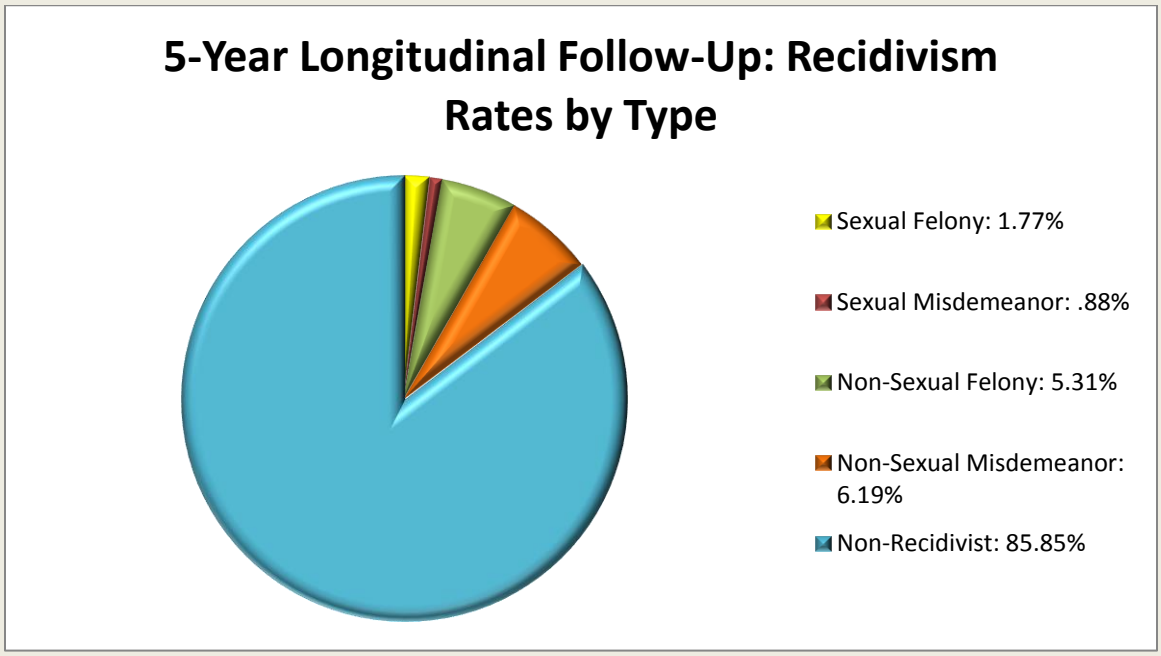


Table 2. *N=85* Moderate Correlation between Special Education Recipients and Treatment Non-Completion *(Corr = -.32)*.

Education Category	Completed Treatment	Failure to Complete Treatment
Special Education	56%	44%
Regular Education	85%	15%

RECIDIVISM

Figure 13. *N = 113 (all returned records)*



When a longitudinal sample was taken, 1.77% of discharged residents (2014-2018) sexually recidivated yielding felonies; .88% of discharged residents sexually recidivated yielding misdemeanors; 5.31% of discharged residents (2014-2018) non-sexually recidivated yielding felonies; 6.19% of discharged residents (2014-2018) non-Sexually recidivated yielding misdemeanors. 2.65% of discharged residents from our sample sexually recidivated, and 11.5% of discharged residents non-sexually recidivated, in total. This year's finding reflects a generally stable recidivism profile when compared to last year's sample, notwithstanding a notable increase in non-sexual felony charges. All recidivism data was gleaned through standard state (PA) criminal record reviews, that block release of sub-felonious charges for juveniles. Noneless, our findings fall at the low extreme of post-treatment recidivism rates for this population gleaned via meta-analysis (2.5% - 7.5%).

Post-Hoc B. *N = 52* **Response Inhibition as a Predictor of Sexual Recidivism Risk**

Classification Table

Observed	*Predicted* *Sexual Recidivism Risk*		*Percentage Correct*
	Low Risk	High Risk	
Step 1			
Low Risk	14	12	53.85
High Risk	8	18	69.23
Overall Percentage			61.54

Variables in the Equation

		B	*S.E.*	*Wald*	*df*	*Significance*	*Exp(B)*
Step 1	*Response Inhibition*	.03	.01	3.90	1	**.048**	1.03
	Constant	-2.19	1.16	3.57	1	.059	.11

Negelkerke R Square = .11

Finding: The Integrated Visual and Auditory Continuous Performance Test, Second Edition (IVA-2) *Prudence* **score partially predicts sexual recidivism risk at the end of treatment, with high certainty (*p<.05)*, and accounts for 11% of the variance in outcome (Negelkerke R Square = .11).**

Note: Commencing on September 4, 2018, the PROFESSOR will replace the ERASOR as our assessment of juvenile sexual recidivism risk. The PROFESSOR offers a balance of risk and protective factors to more accurately evaluate risk. The ERASOR variables will be collected for an additional four years, until the PROFESSOR data has covered a five-year tail of discharged youth.

Post-Hoc C. *N = 111* Treatment Completers Less likely to Recidivate (all types)

Treatment Completion Status	*Percentage Sexually Recidivating*	*Percentage Non-Sexually Recidivating*
Completed	2.60	6.58
Not Completed	2.94	11.76

TREATMENT IMPACT

Tables 3 & 4. Wilcoxon Matched Pairs Test: Inferential Statistical and Clinical Difference between Beginning of Treatment and End of Treatment Measures for Dynamic Variables (non-parametric)

Table 3. Ranks

Variable (Pretest and Posttest)	*Ties (N)*	*Total N*	Expected Direction?
Peer Group Quality	27	60	Y
Functional Behavior	4	47	Y
Externalizing	14	42	Y
Internalizing	13	41	Y
Family Involvement	17	33	Y
Family Functioning	14	49	Y
Sexual Recidivism Risk	11	66	Y
Psychosocial Functioning	16	68	Y
Peer Closeness	39	61	Y
Deviant Sexual Interest: Child – Objective	31	40	Y
Deviant Sexual Interest: Force – Objective	35	39	Y
Sexual Preoccupation	33	52	Y
Emotional Regulation	10	35	Y
Attitude Supportive of Sexual Offending	30	54	Y
Level of Cognitive Distortion	36	57	Y
Functional Empathy	28	52	Y
Stage of Change	4	31	Y

Table 4. Test Statistics

Variable (Pretest to Posttest)	*Z*	*Significance (2-Tailed)*
Peer Group Quality**	-3.63	<.01
Functional Behavior*	-2.54	.011
Externalizing	-1.37	.171
Internalizing	-1.50	.133
Family Involvement	-1.35	.176
Family Functioning	-1.80	.083
Sexual Recidivism Risk**	-4.01	<.01
Psychosocial Functioning**	-3.14	<.01
Peer Closeness*	-2.03	.043
Deviant Sexual Interest: Child – Objective	-1.0	.317
Deviant Sexual Interest: Force – Objective	-.00	1.00
Sexual Preoccupation	-.85	.394
Emotional Regulation**	-2.76	<.01
Attitude Supportive of Sexual Offending**	-3.32	<.01
Level of Cognitive Distortion**	-2.02	<.01
Functional Empathy**	-2.80	<.01
Stage of Change**	-4.44	<.01

* *significance reached (p<.05)*
** *significance reached (p<.01)*

Figure 14. *N = 49*

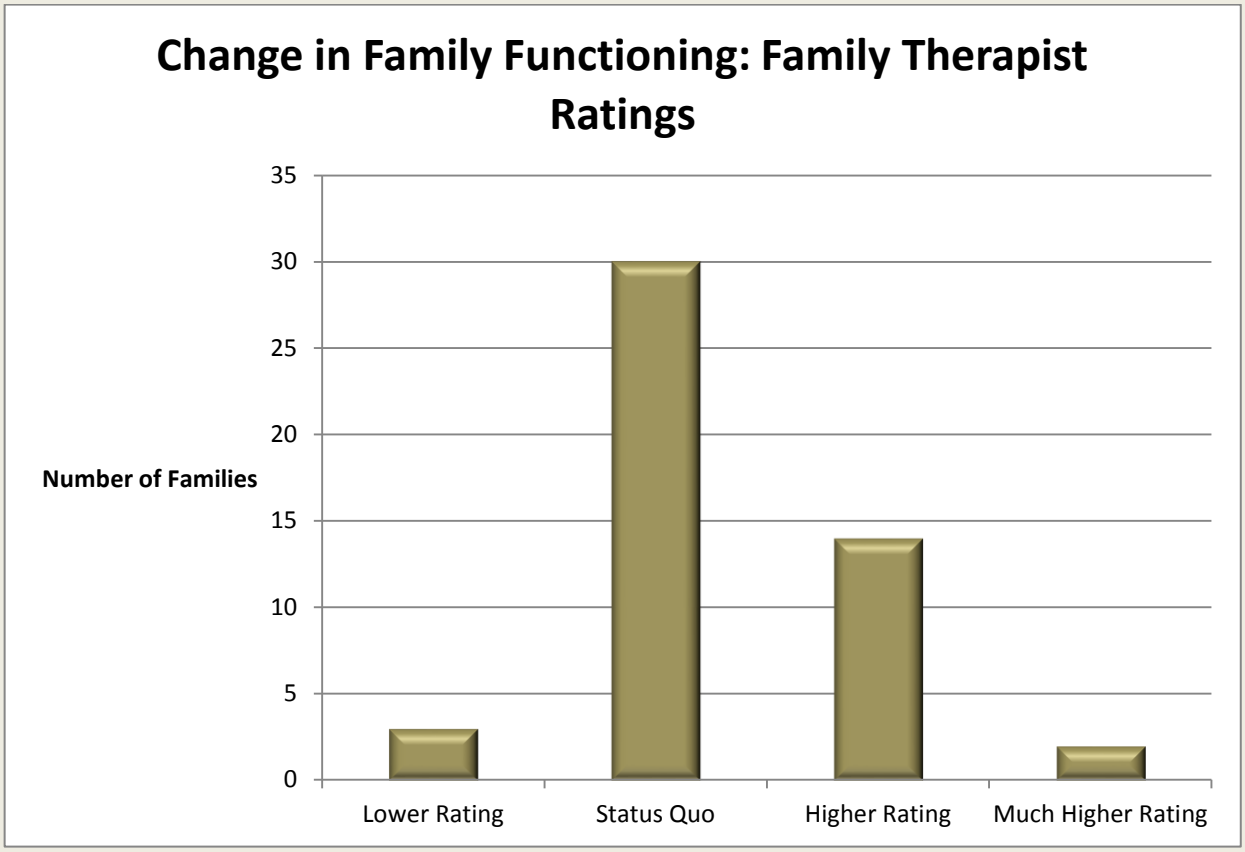
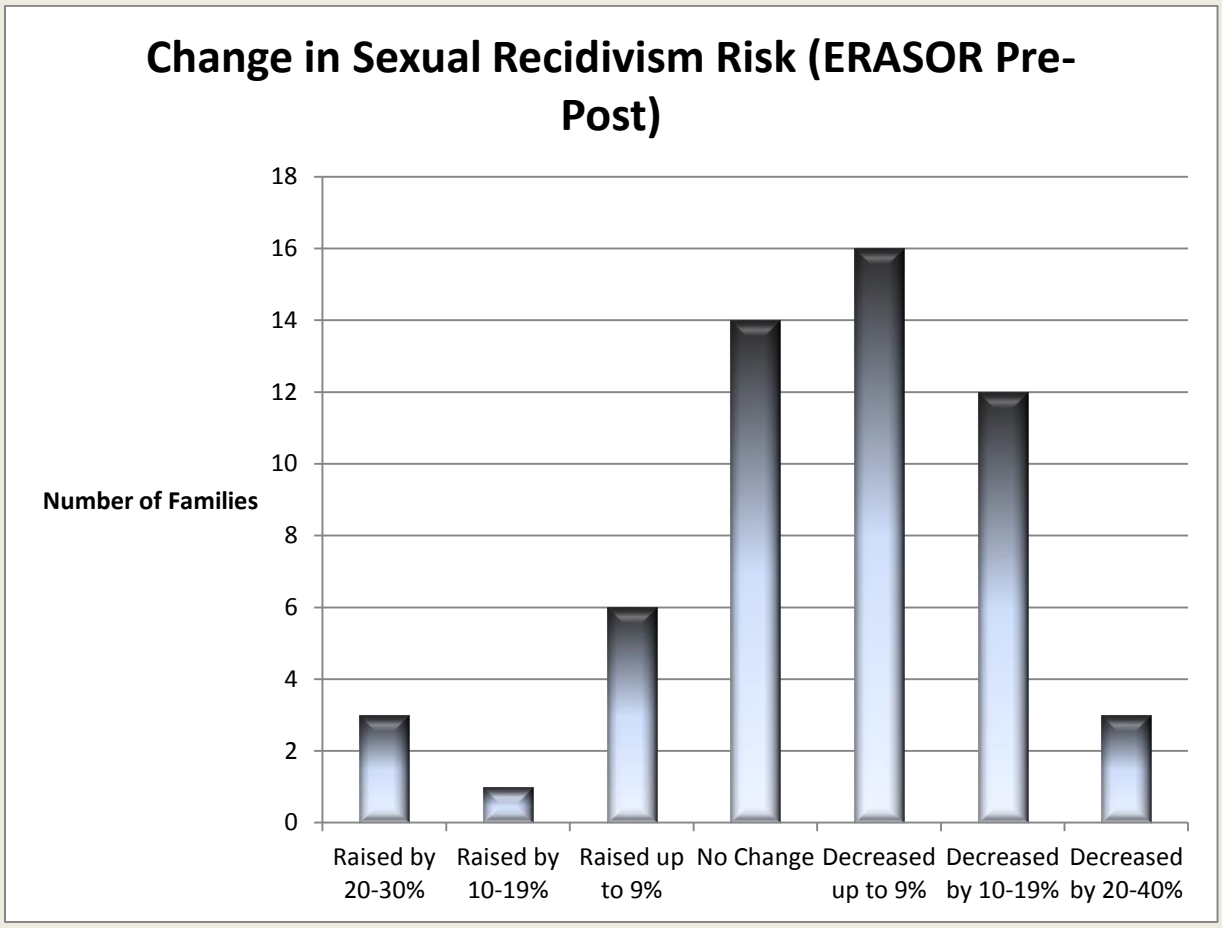


Figure 14 represents change in family functioning from treatment start to treatment end, as assessed by several items of the periodic family assessment administered by the family therapist. It should be noted that higher-functioning families at the outset of treatment represent a 'ceiling effect', such that improvement would not be detected at time of discharge (or termination of family therapy). Approximately one-third of families fall into the highest rating category at the commencement of family therapy services, disallowing the measurement of improvement over the course of treatment. Nonetheless, a modal status quo is skewed positively with regard to an increase in measured functioning of residents' families. Items of interest include Family Member Accountability, Familial Boundaries, Role of Substance Abuse, Therapeutic Willingness, and Supervisor/Parent Level of Reliability/Structure.

Figure 15. *N = 65 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*

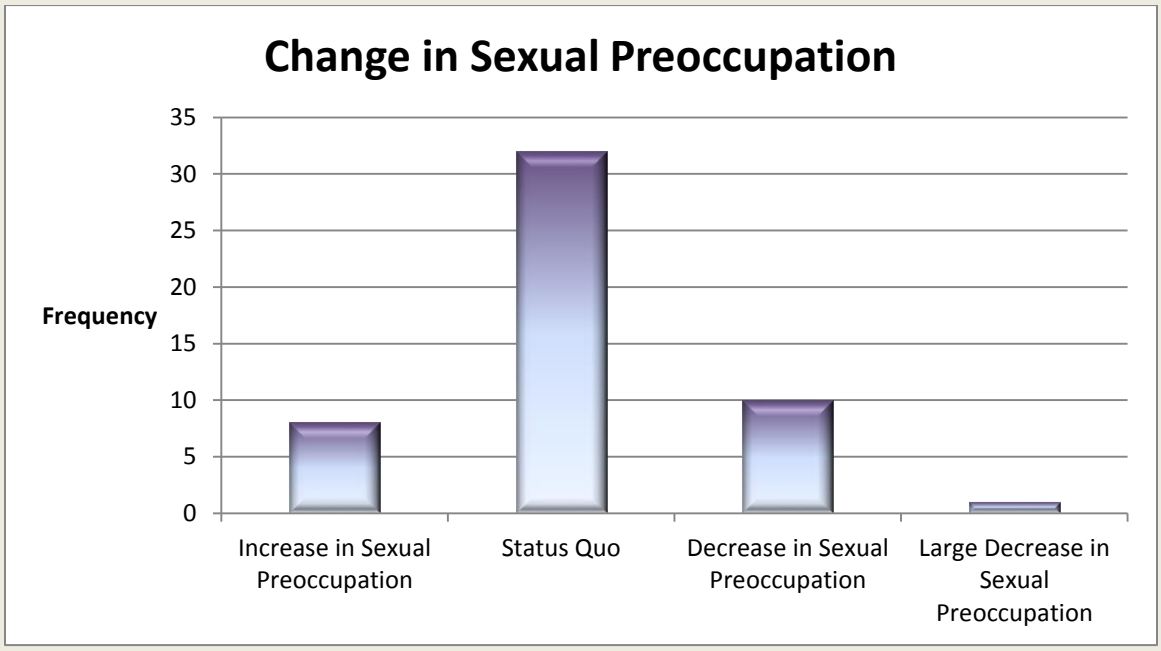


Change in overall risk of sexual recidivism as measured by the ERASOR. On average, clients improve by approximately 18% with regard to reducing or 'eliminating' an average of 9% of all identified risk factors. This represents a slight decrease in gains made when compared to a prior cohort (2011-2015), but remains clinically significant (reduction by one 'level' of risk).

Post-Hoc D. *N=35* **Sexual Offenders whose offenses involved entrapment may evidence more change in their deviant interest in children following treatment than do other approach strategies.**

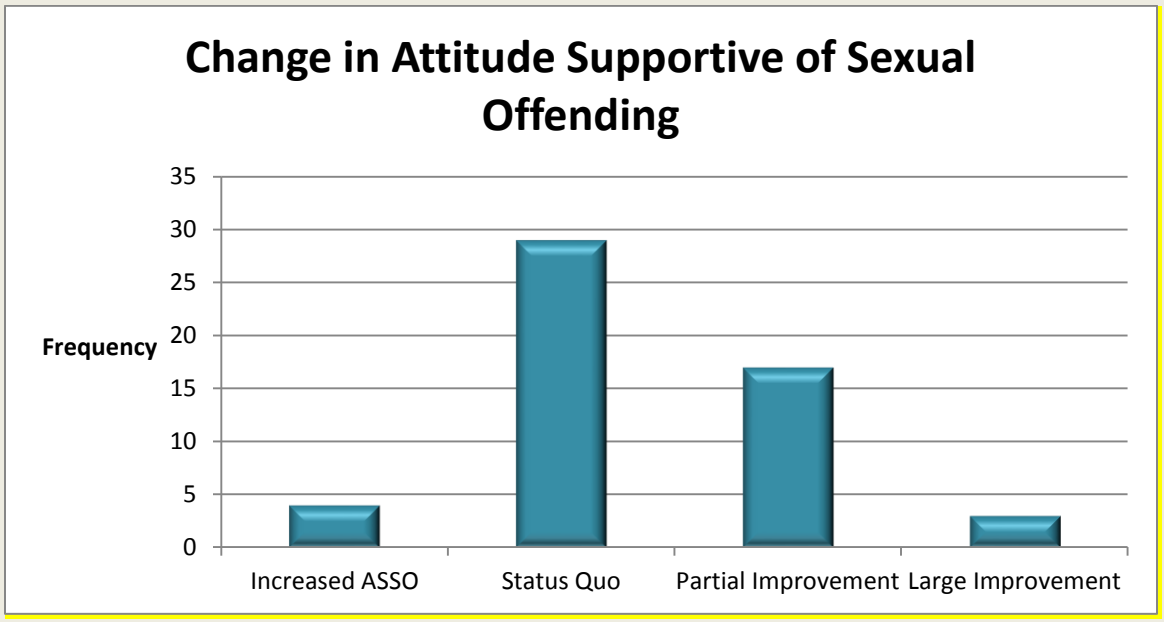
Category Statistic	*Value*
Spearman's Correlation	.35

Figure 16. *N = 51 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*



Representing a subscore of the ERASOR, change in sexual preoccupation reflects general improvement, but the clinical impact appears to be muted on this variable, compared to historic results that were clinically and statistically significant (Figure 16). It is noted that in early 2018, a temporary shift in targeted interventions may partially explain this effect. *See Clinical Implications, p. 7.*

Figure 17. *N = 53 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*



For 'Attitudes Supportive of Sexual Offending' (Figure 17, 'Change in Level of Cognitive Distortions' (Figure 18), and 'Change in Empathic Response Style' (Figure 19, p.23), results indicate improvement for the treatment target.

Figure 18. *N = 57 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*

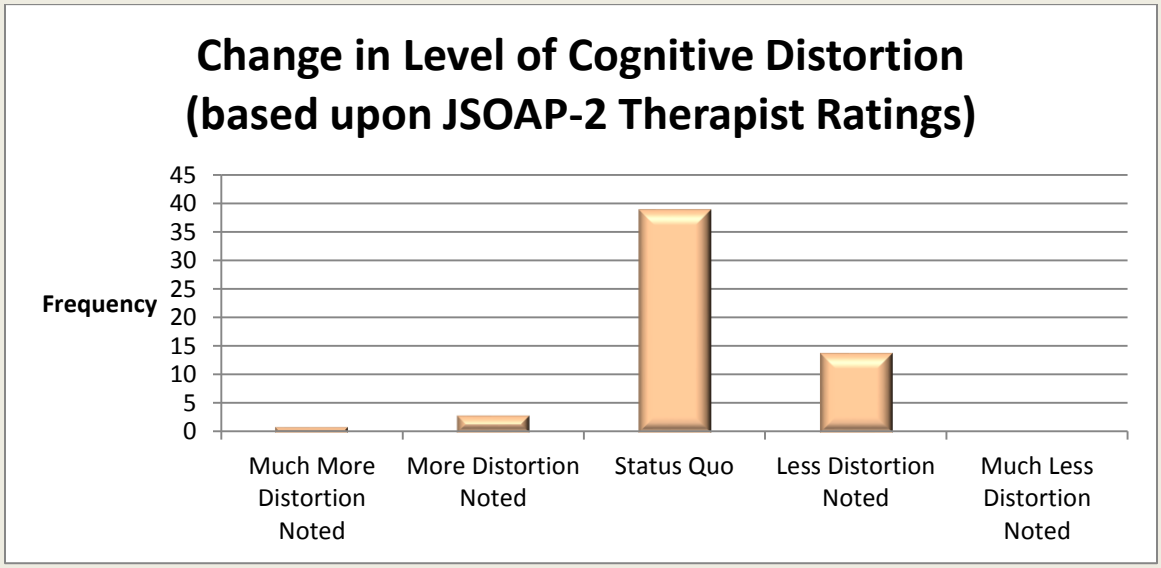
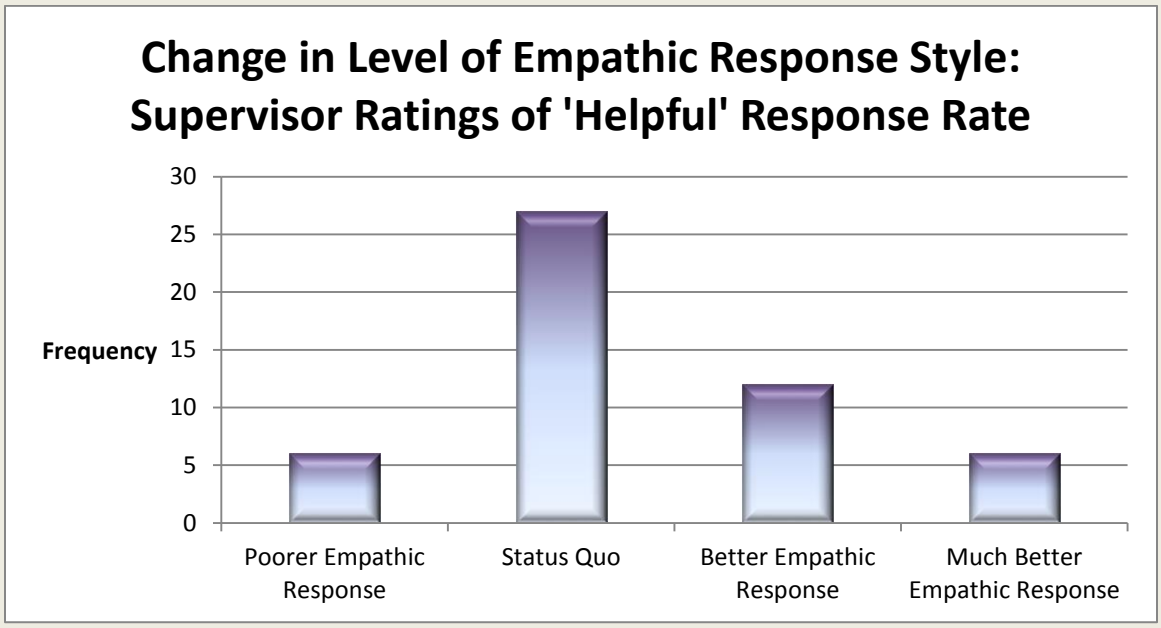
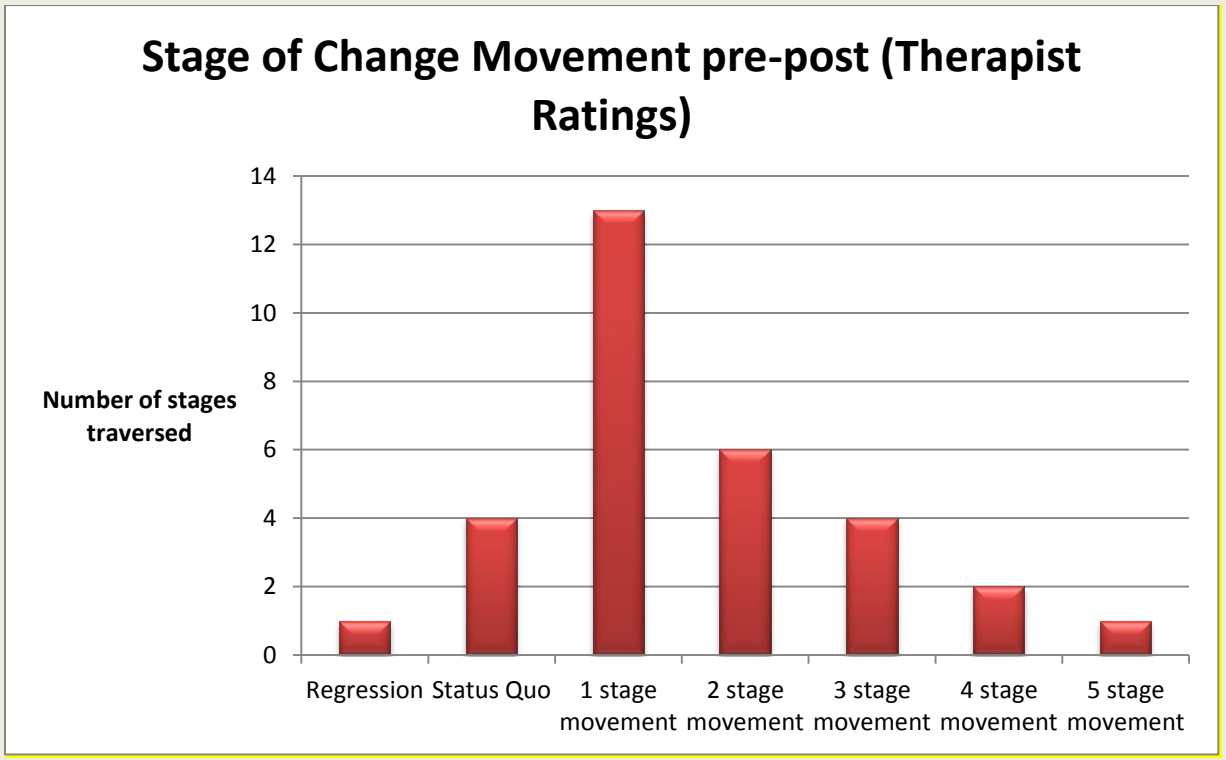


Figure 19. *N = 52 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*

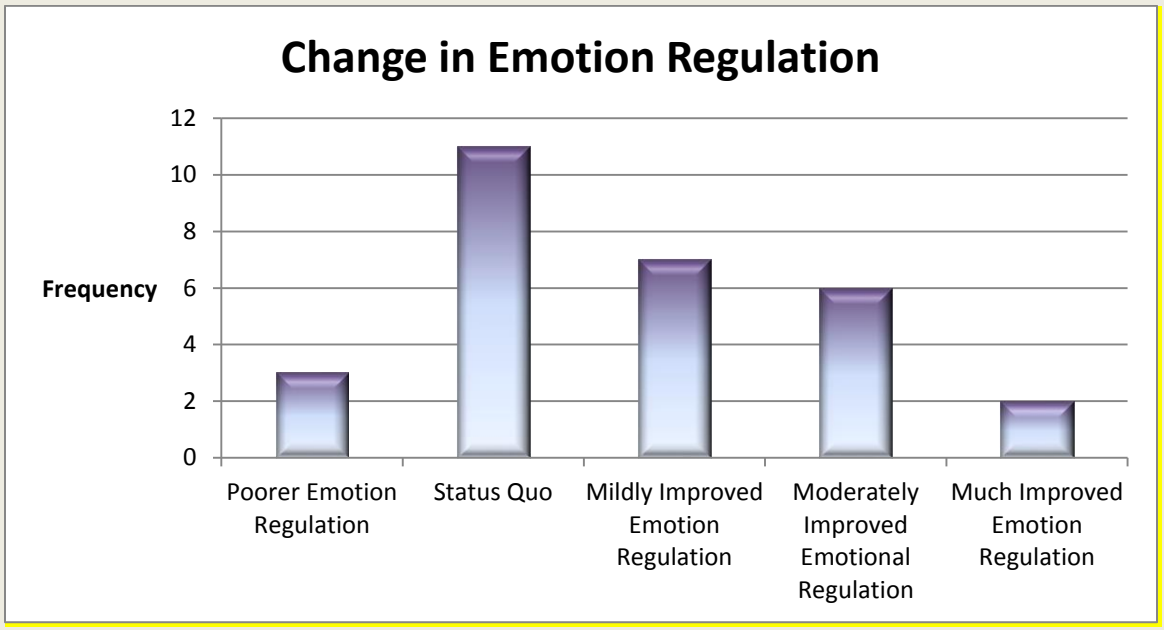


Post-Hoc E. *N = 31* **Change in Stage of Change related to Reducing Sexual Offending Behavior**



An expected average positive shift of stage movements (mean = 1.6) with positive skew was determined from residents' admission to program completion.

Figure 20. N = *29 (Individuals must have completed treatment along with available pre- and posttest data for inclusion)*



Post-Hoc F. *N* = 13 **Better Impulse Control relates to less treatment gain with regard to Externalizing Behaviors (also see Figure 20). Reflexively,** it is likely that individuals initially presenting to treatment with more impulsivity have more potential for therapeutic gain with regard to 'acting out'.

Category Statistic	*Value*
Spearman's Correlation	-.39

Figure 21. Impulse Control & Reduction of Externalizing Behavior: linear model.

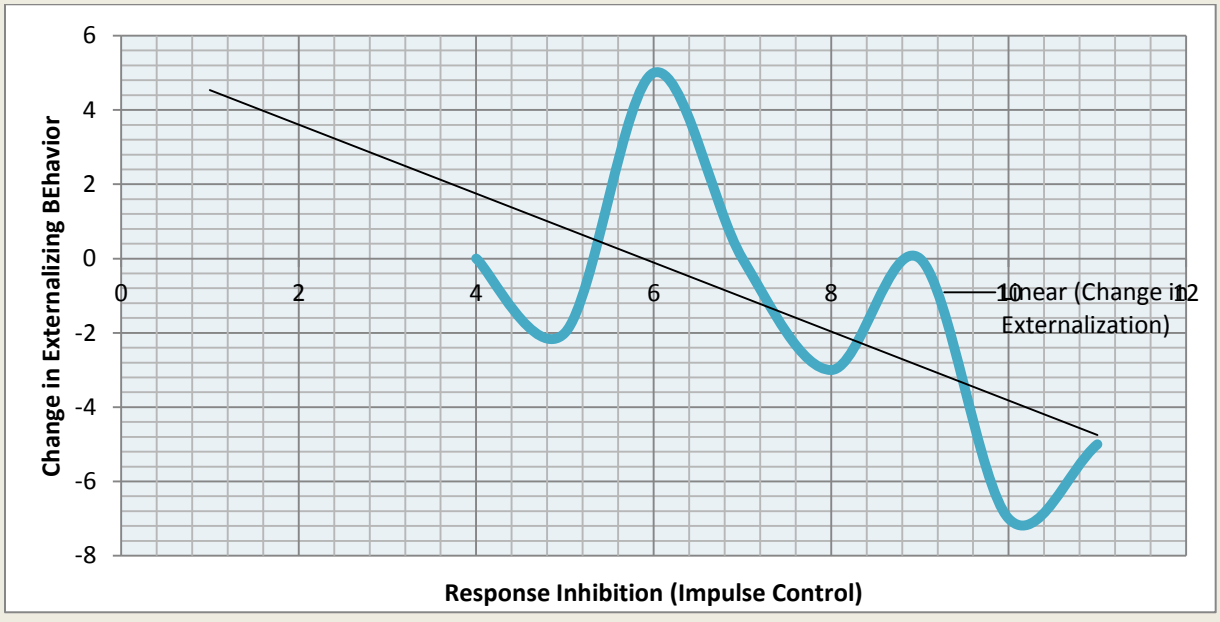


Table 5. Novel Correlations between Stable Variables and Treatment Impact

Variable 1	Variable 2	*N*	Spearman Correlation	Expected Direction?
Full Scale IQ	Change in Externalization	16	.33	Y

Table 6. Novel Correlations between Static/Historical Variables and Treatment Impact

Variable 1	Variable 2	*N*	Spearman Correlation	Expected Direction?
Meaningful Adult Relationship	Change in Internalization	18	-.40	Y
Meaningful Adult Relationship	Change in 'Stage of Change'	31	.50	Y
Witness Adult Violence	Change in Externalization	18	.32	Y
Victim was Male	Change in Internalization	18	.35	N/A
Victim was more than 3 years younger	Change in Internalization	18	.44	N/A
Offense involved Force	Change in Externalization	18	.60	Y

Thematically, significant correlations of life history were found to the pre- to post Internalization and Externalization change variables. Particularly, Positive versus negative experiences with significant parent figures seem related, to the degree to which behavioral coping deficits respond to treatment (table 6)**. It appears that individuals with a poor history of positive adult relationship(s) stand to benefit more from treatment in the way of Internalization, and similarly may present with more potential for improvement with regard to movement through the stages of change.**

Table 7. Correlations between Intervention Variables and Treatment Impact

VARIABLE 1	VARIABLE 2	N	Spearman Correlation
Art Therapy	Change in Emotional Regulation	25	-.36
Life Skills	Change in Emotional Regulation	25	.32
EMDR	Change in Emotional Regulation	25	-.35
Relaxation Group	Change in Emotional Regulation	25	-.27
Art Therapy	Change in Externalization	17	.44
Life Skills	Change in Family Involvement	60	.45
Social Skills Module	Change in Family Involvement	30	-.52
Distress Tolerance Module	Change in Family Involvement	30	-.33
Social Skills Module	Change in Functional Behavior	46	.41
Anger Management Module	Change in Functional Empathy	48	-.34
Art Therapy	Change in Internalization	17	.64
Yoga	Change in Internalization	17	.30
Boy's Council	Change in Internalization	17	-.47
Traumatic Stress Group	Change in Internalization	17	.50
Life Skills	Change in Intrapsychic Risk Factors	59	.30
Anger Management Module	Change in Overall Sexual Recidivism Risk	55	.27
Life Skills	Change in Overall Sexual Recidivism Risk	56	.33
Yoga	Change in Peer Closeness	61	.30
Anger Management Module	Change in Peer Group Quality	30	-.26
Distress Tolerance Module	Change in Stage of Change	31	-.31

Notable Treatment gains that are plausibly attributable, in part, to specific treatment interventions were found in Internalization (Art Therapy, Yoga, Boy's Council, Traumatic Stress Group), Functional Behavior (Social Skills Module), Functional Empathy (Anger Management Module), Externalization (Art Therapy), Deviant Sexual Interest Risks (Anger Management Module), Psychosocial Functioning (Life Skills), Reduction in Overall Sexual Recidivism Risk (Anger Management, Life Skills), Increases in Peer Closeness (Yoga), Increases in Peer Group Quality (Anger Management), and Increases in Emotional Regulation (Art Therapy, Life Skills, EMDR, Relaxation Group).

CLIENT OUTCOMES AT TIME OF DISCHARGE

Figure 22. *N = 98*

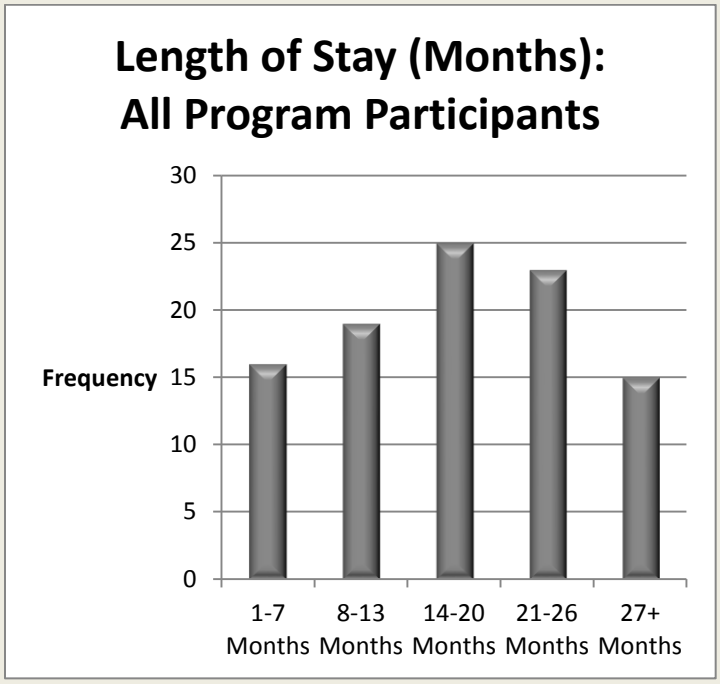
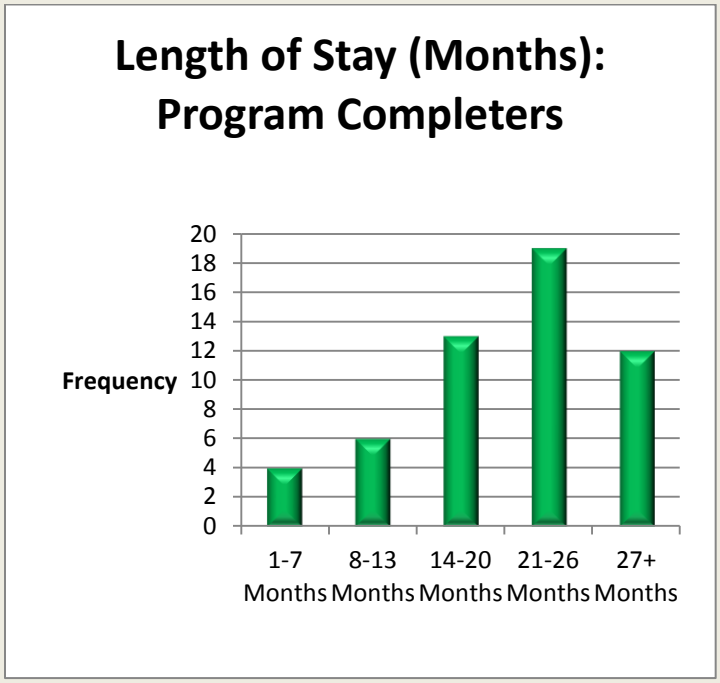


Figure 22 reflects Length of Stay for all clients discharged between 2014 and 2018; average = 507 days (1.4 years).

The average graduate will stay for 623 days (1.7 years).

Figure 23 represents the average length of stay for clients who successfully completed Mathom House's Full Curriculum. Nearly all successful graduates completed at least core curricular requirements between 12 and 27 months. Length of stay for all program participants dropped nominally when compared to last year's study (5 year tail).

Figure 23. *N = 54*



Post-Hoc G. *N = 54* Linear Regression: **Older Age at Admission Predicts Longer Length of Stay.** Data consistently have suggested that younger residents may move more quickly to treatment completion.

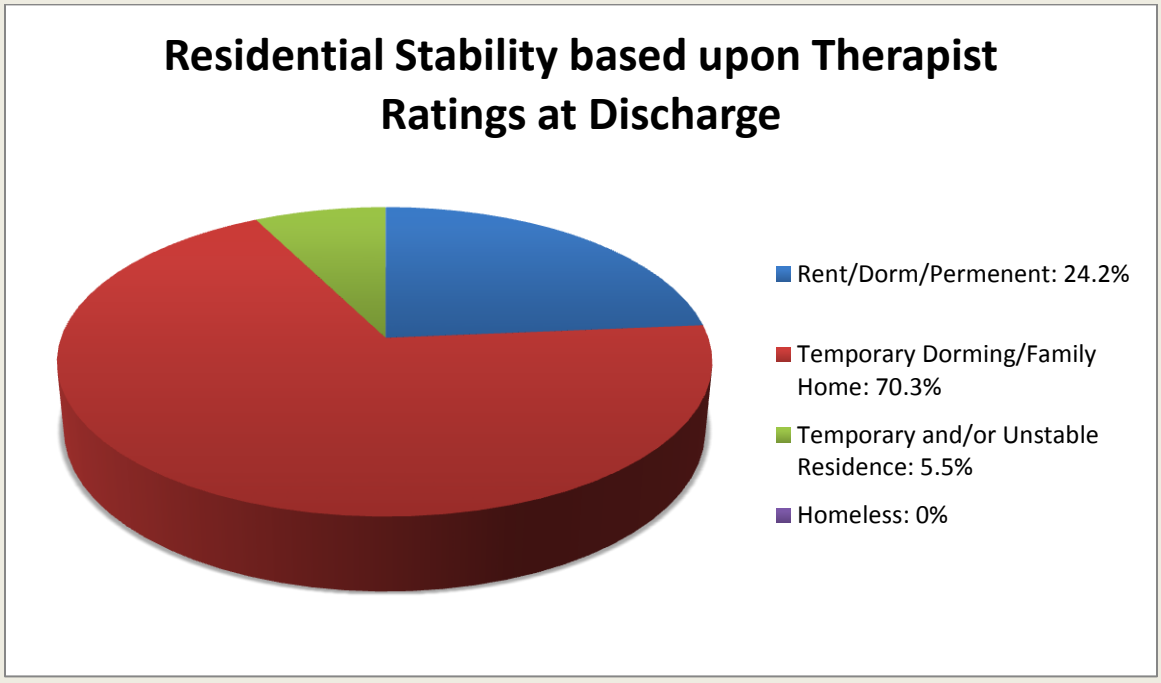
Model Summary

R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
.32	.10	.08	258.31

ANOVA

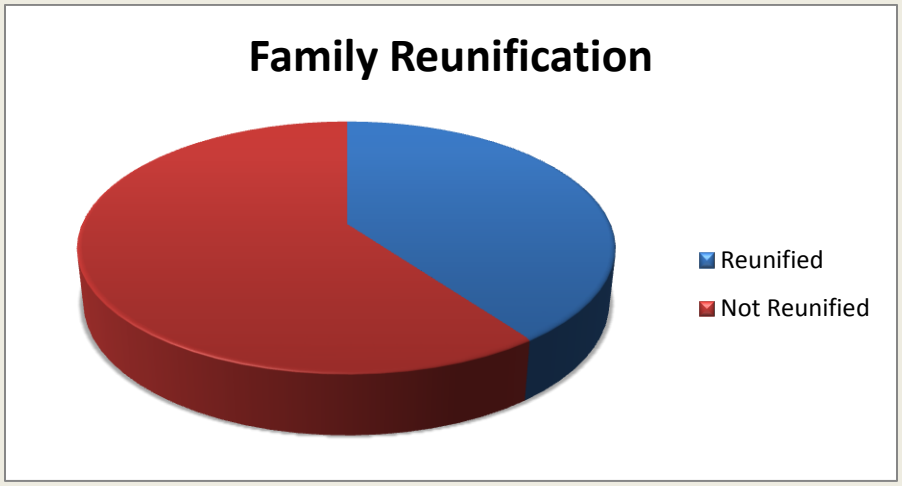
	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Regression	*386199.48*	1	386199.48	5.79	.02
Residual	*3469763.35*	52	66726.22		
Total	*3855962.83*	53			

Figure 24. *N = 62*



Data for residents at time of discharge indicates that nearly all Mathom House clients immediately move to temporary but stable residences that include temporary residence at their primary family home or move to college, rental apartments, or permanent family dwellings.

Figure 25. *N = 65*



This All-or-nothing measure simply indicates the frequency at which clients are discharging from Mathom House DIRECTLY to their family (or kinship) home. Over the past five years, a 40% rate of immediate home reunification has been established. This statistic has remained fairly steady over time.

Figure 26. Discharge Location Type; *N = 69*

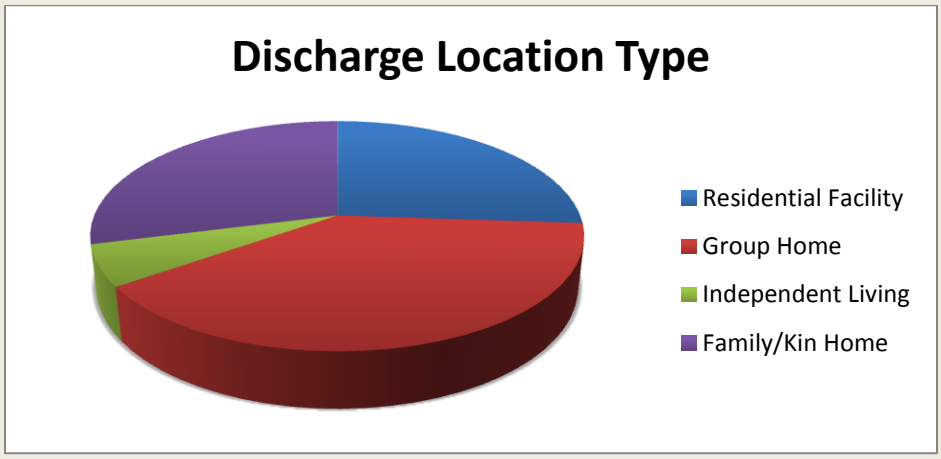


Figure 26 indicates that approximately one-half of Mathom House Discharges move to a group-home (or equivalent) level of residential restriction or independent living following inpatient treatment at our agency. Of the remainder, an approximate equl number of program graduates (about ¼) of graduates leave for a far less restrictive community setting such as home or another restrictive settings (residential facility, state-secure institution), the latter generally occurring in the cases of program non-completers.

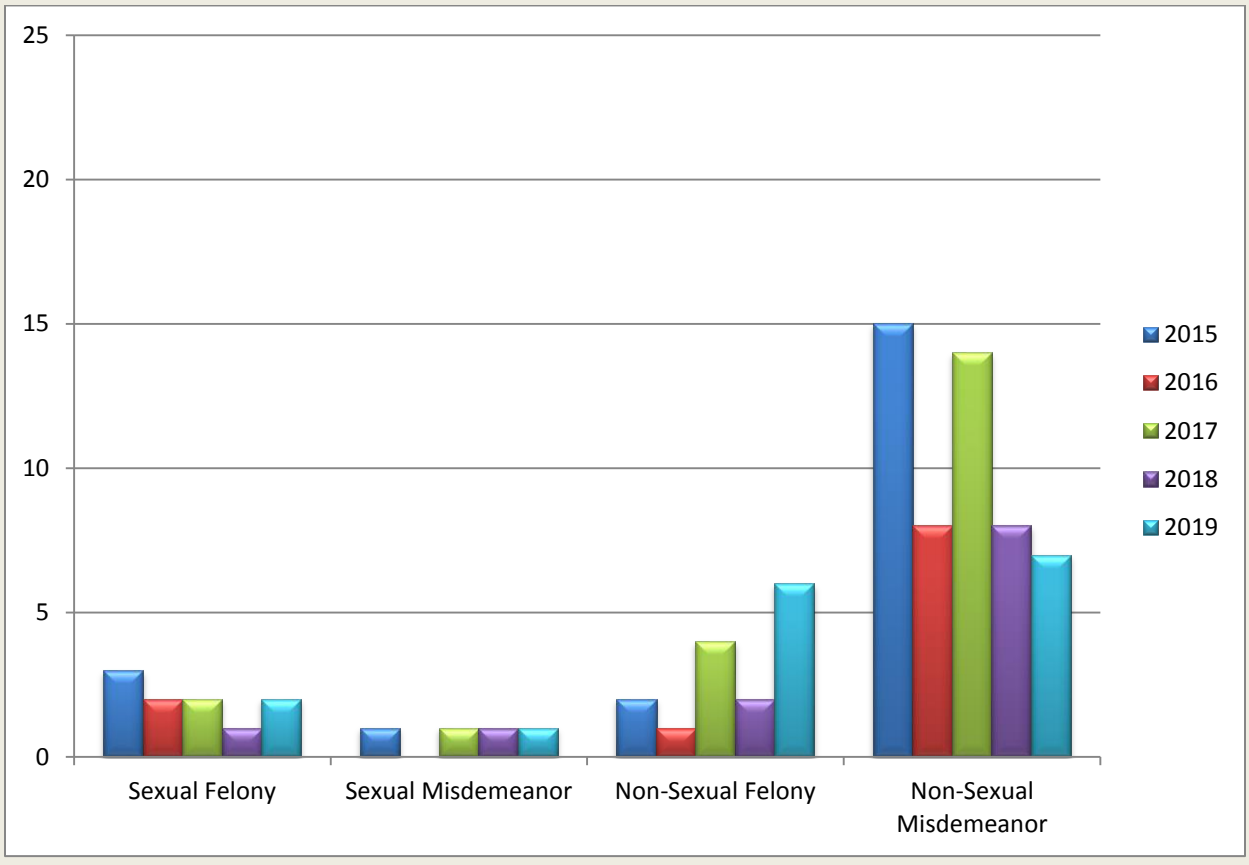
YEAR-BY-YEAR COMPARISON OF MATHOM HOUSE CLINICAL PROGRAM EFFECTIVENESS

2019 PROGRAM IMPACT COMPARED TO BASELINE (2008-2013 DATA)

Table 8. **Sexual Recidivism Risk Reductions Attributable to Treatment**

Year of Study	Pre-Treatment Average ERASOR Risk Quotient	Post-Treatment Average ERASOR Risk Quotient	Reduction in Sexual Recidivism Risk
2014	**.51**	**.37**	**.14**
2015	**.51**	**.36**	**.15**
2016	**.53**	**.38**	**.15**
2017	**.50**	**.39**	**.11**
2018	**.49**	**.37**	**.12**
2019	**.47**	**.38**	**.09**

Figure 27. **Longitudinal (5-Year) Recidivism Rate (percentage) Monitoring** *(gleaned from standard state criminal record requests)*



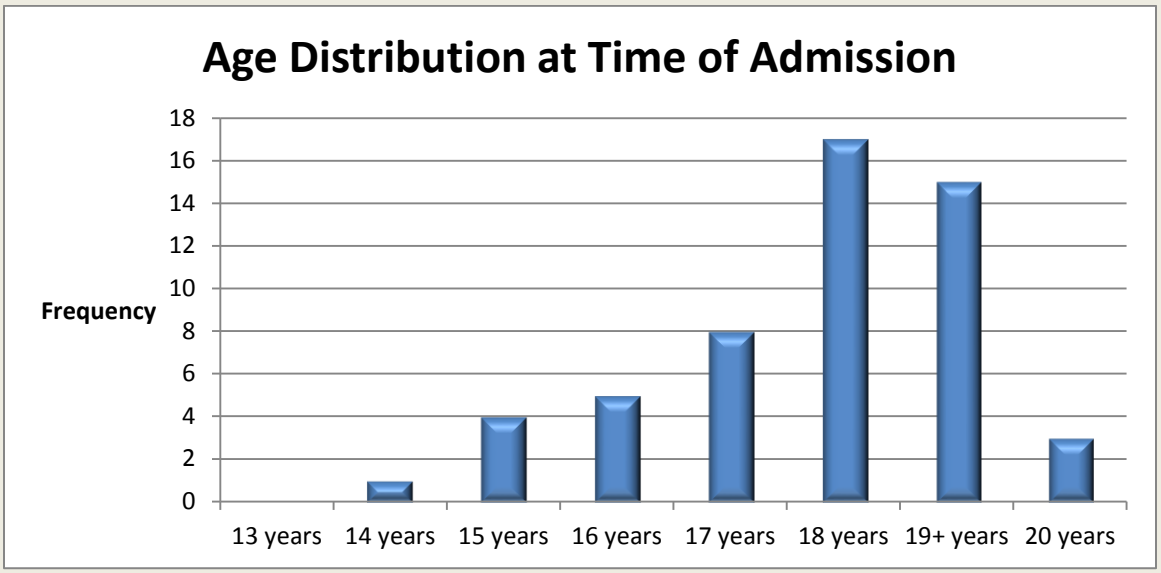
Executive Summary, Part II:

2019

Residential Treatment Impact and Client Outcome Analysis: Easton Manor

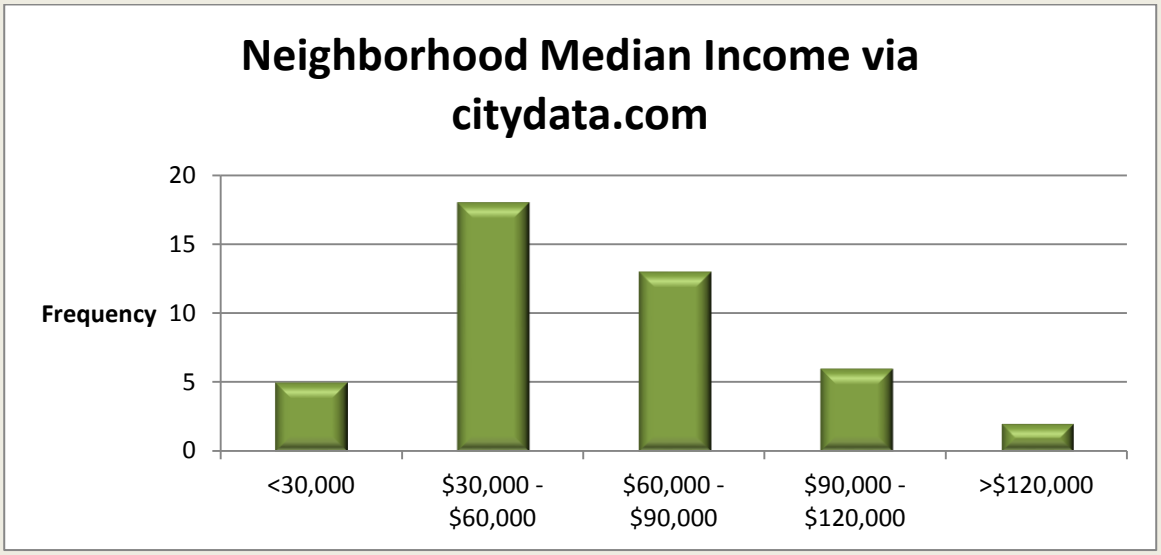
CLIENT DEMOGRAPHICS

Figure 28. *N = 50 (All Discharges)*



Age, measured in days, indicates an average age at admission of 17.8 years, based upon the most recent five years of discharged clients (2014-2018). This represents virtually no change in the average age of new residents over the past year (see Figure 28).

Figure 29. *N =44 (Other Income Data not available)*



Median neighborhood income was gleaned using data from citydata.com for the past five years of clients served at Easton Manor. Our sample is fairly representative of the income distribution found in Southeastern Pennsylvania. Approximately two-thirds (70%) of our clients hale from 'working' or 'middle' class neighborhoods as defined by incomes falling between $30,000-$90,000 (see Figure 29).

Neurocognitive Profile

Figure 30. *N = 37 (progressively increased data capture from 2013 to 2018)*

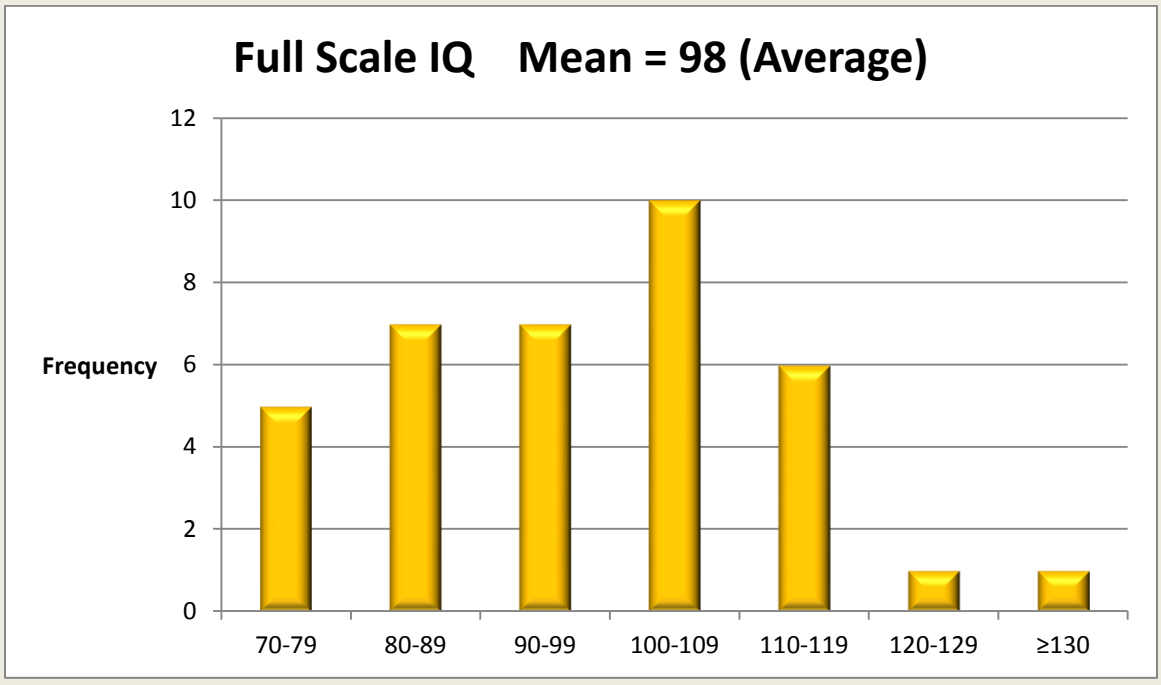


Figure 31. *N = 37 (progressively increased data capture from 2013 to 2018)*

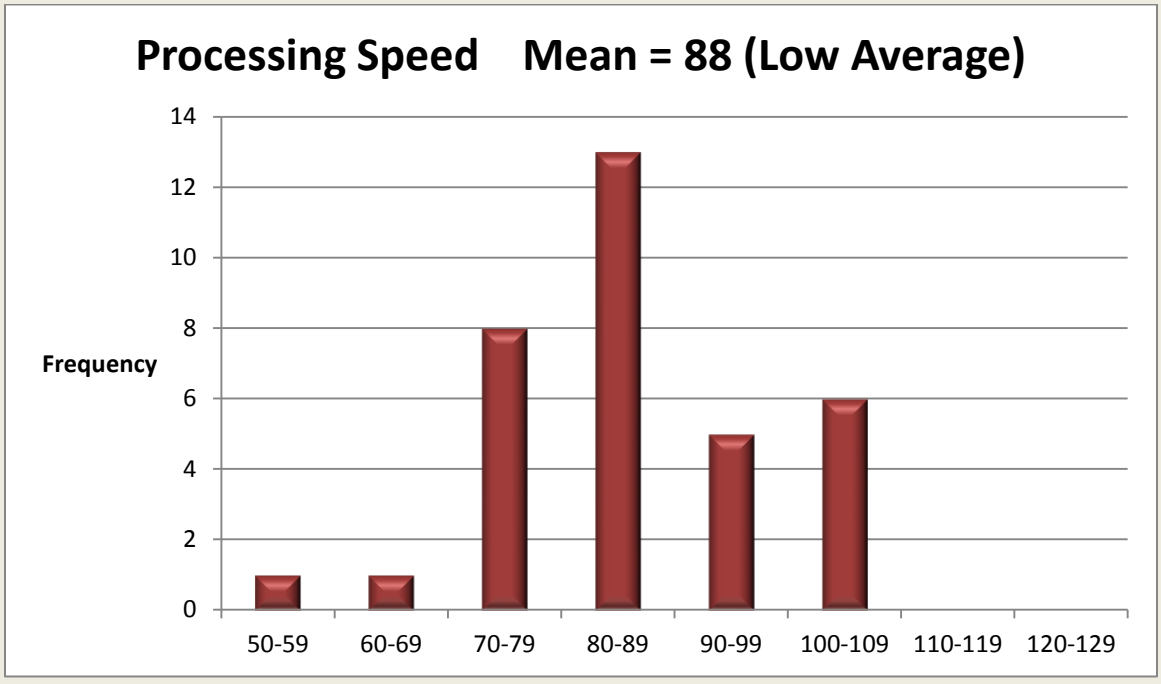
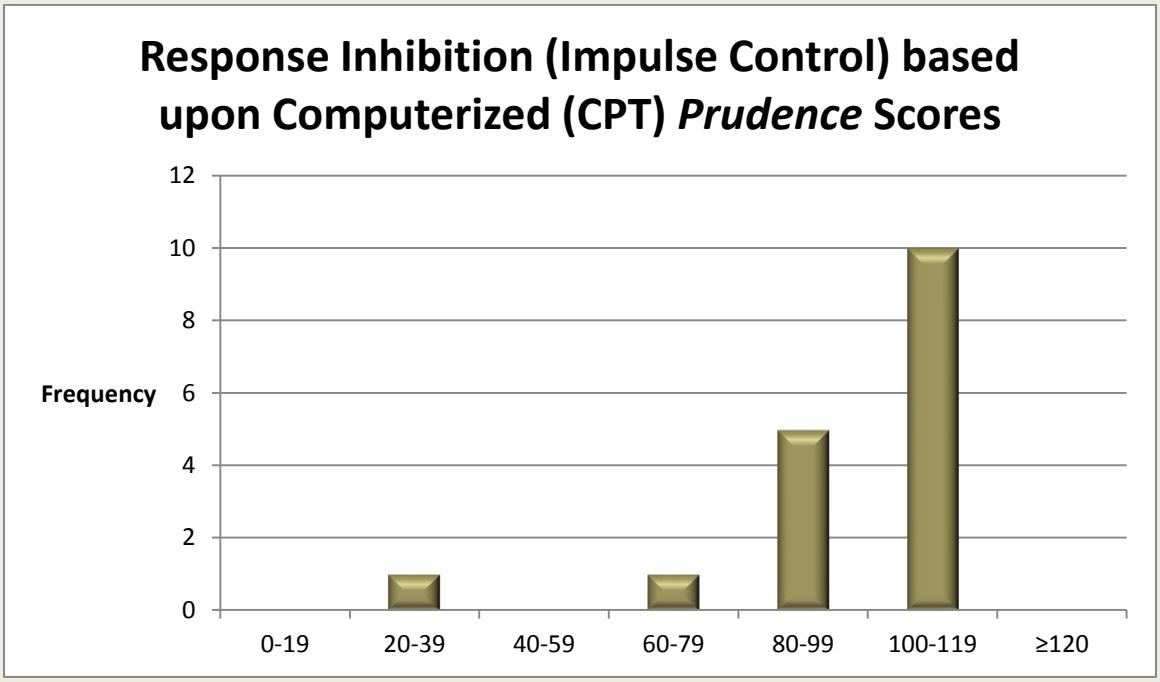


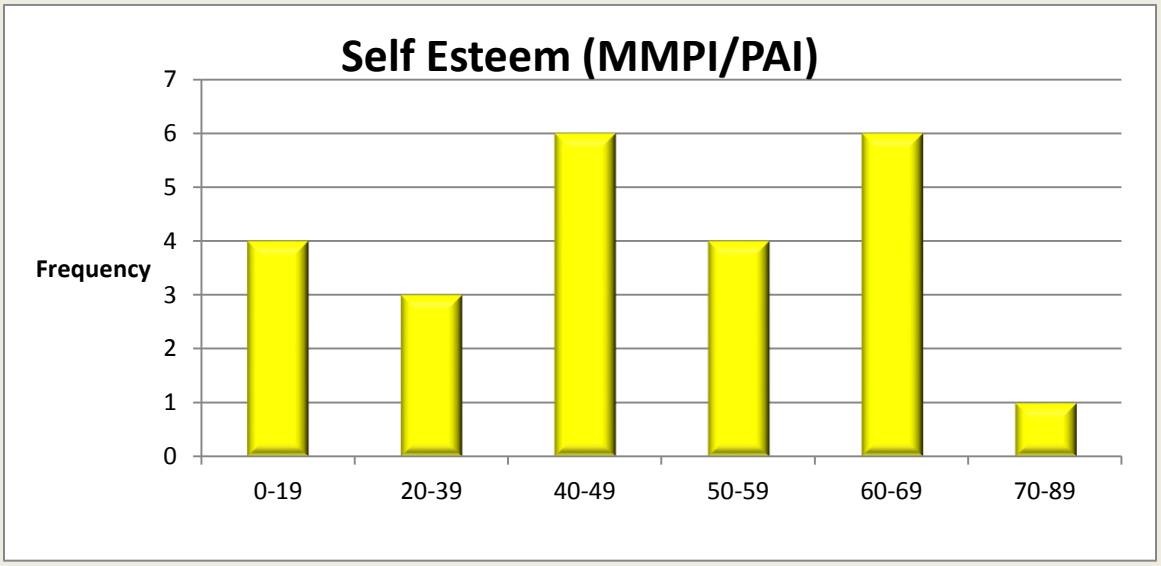
Figure 32. *N = 17 (deficits in sample size due to technical issues with assessment software)*



Neurocognitive profiling of our clients (2014-2018) continues to suggest an 'Average' level of intellectual functioning (SS = 98; 45th percentile) that follows a normal distribution curve (Figure 31, p.33). Of note is the repeated finding of Low Average Processing Speed (SS=88; 21st percentile) for our subpopulation (Figure 32).

A subsample of our clients was found to have Below Average Response Inhibition/Impulse Control, based upon computerized continuous performance testing (note the modal average with negative skew), further reflecting deficits in Executive Functioning for our clients (Figure 32).

Figure 33. *N=24*



Based upon subscales of the MMPI-2, MMPI-A, PAI, and PAI-A, a bi-modal distribution distribution of Self Esteem scores, both within the 'broad average' range is indicated for our subpopulation (Figure 33). Similarly, the personality traits of Aggression and Antisocialness, as gleaned from the aforementioned personality measures indicate a normative distribution with a near-normative, mildly pathological skew (Figures 34 and 35 (on next page)).

Figure 34. *N = 20*

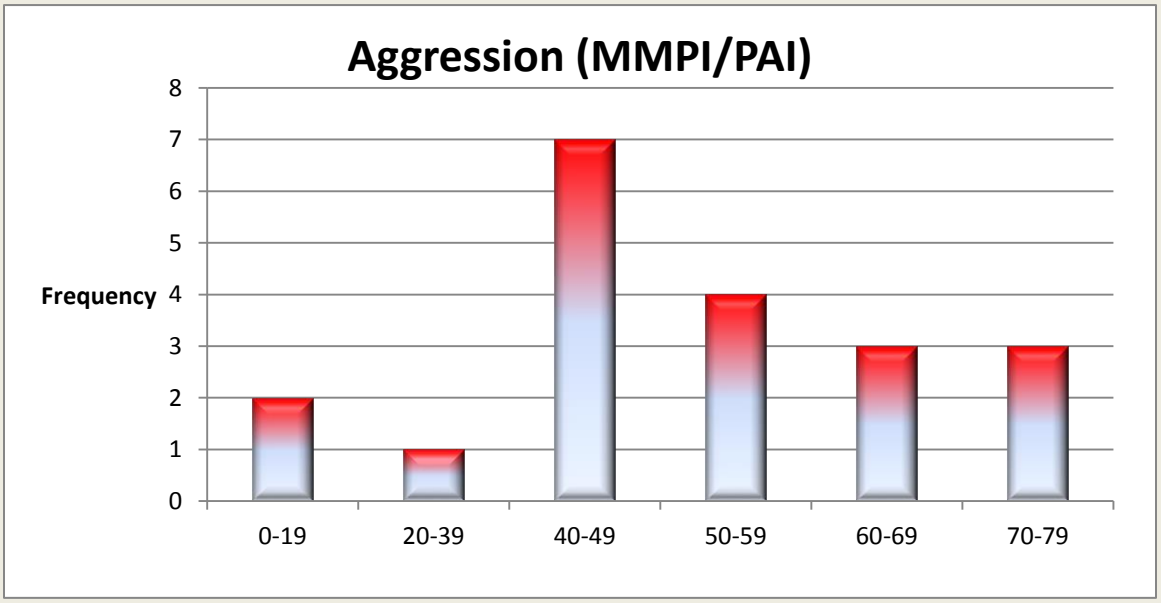
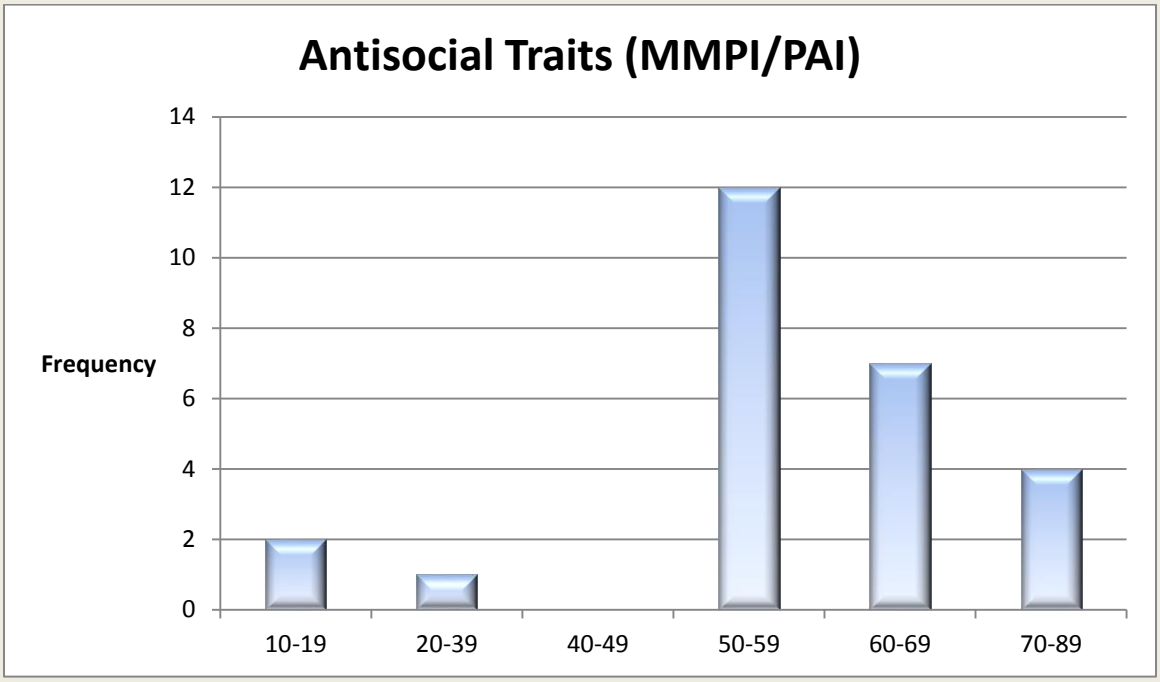


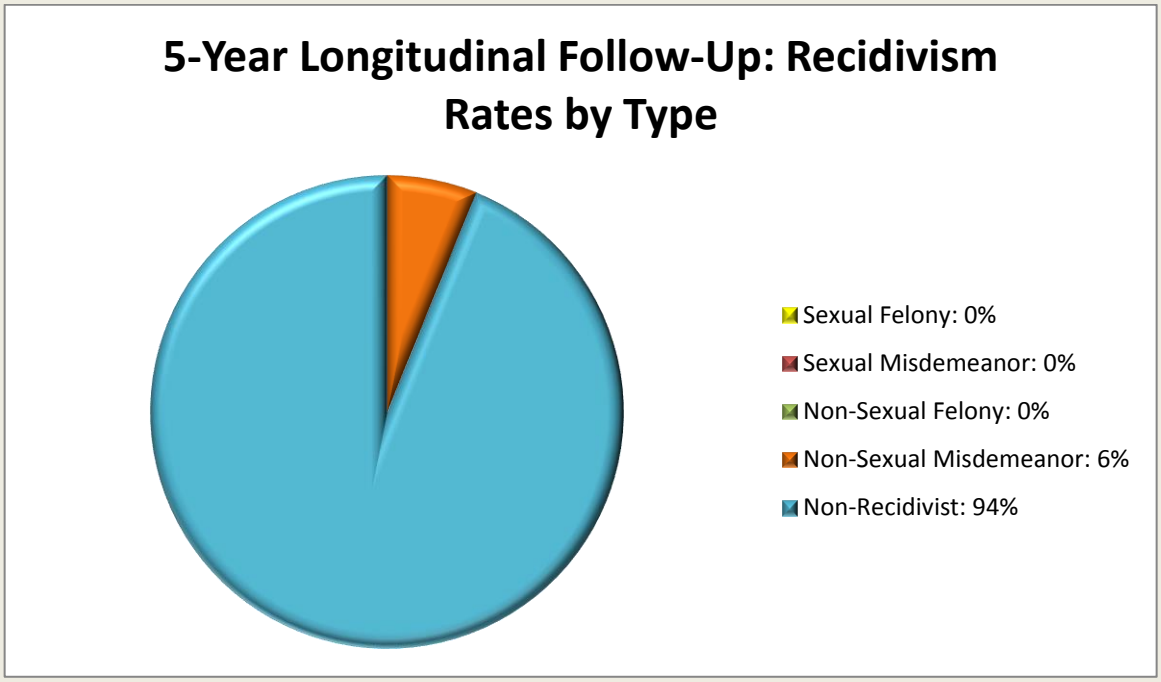
Figure 35. *N = 18*



Antisocial traits amongst Easton Manor residents follows a near-normative, mildly skewed distribution toward negative interpersonal conduct, stimulation seeking, and/or empathy deficits (average SS=57). Such measures of Antisocial Personality traits may or may not be reflective of psychopathy traits.

RECIDIVISM

Figure 36. *N = 49 (All but one record was returned)*



For the past 5 years of Easton Manor Discharges, 0% of clients committed substantiated sexual felonies and 0% committed substantiated sexual misdemeanors as acts of recidivism. This is consistent with the total sexual recidivism rate determined for last year's study, and reflects the fact that the most recent recidivisms of this nature reflect graduates from over five years ago (no longer viewed as 'recent' recidivisms). 0% of discharges (2014-2018) committed substantiated felonies of a non-sexual nature and 6% committed substantiated non-sexual misdemeanors as acts of recidivism. All recidivism categories, thus, have reduced or otherwise stayed the same since last year's 5-year sample.

Note: Due to legal and pragmatic limitations to unprotected state criminal record checks, law eliminates the reporting of misdemeanor recidivism data for juveniles who had never committed a felony; thus, the effect of underreporting is assumed with regard to misdemeanor crimes commited amongst non-felonius offenders.

Table 9. Recidivism by Treatment Completion Status

Recidivism Category	*Treatment Completion*	*N*	*Occurrence*	*Percentage*
Felony Sexual	Completed	46	0	0%
	Not Completed	4	0	0%
Misdemeanor Sexual	Completed	46	0	0%
	Not Completed	4	0	0%
Felony Non-Sexual	Completed	46	0	0%
	Not Completed	4	0	0%
Misdemeanor Non-Sexual	Completed	46	2	4%
	Not Completed	4	1	25%
Total Sexual	Completed	46	0	0%
	Not Completed	4	0	0%
Total Non-Sexual	Completed	46	2	4%
	Not Completed	4	1	25%

Finding: Given a sparse sample of recidivists, Independent Samples T-Test indicates no significant correlation between Treatment Completion Status and All Categories of Recidivism; at best, raw percentages of recidivists in either group suggest the possibility that treatment non-completers are more likely to commit Sexual Crimes post-discharge, and that Treatment completers may be more likely to commit Non-Sexual Crimes Post-Discharge (See Table 9). Without a larger sample, inferences cannot be made that attribute treatment completion status to actual recidivism.

Post-Hoc H. Novel (Spearman) Correlations to Sexual Recidivism Risk (ERASOR).

Independent Variable	***N***	**Spearman Correlation**	**Expected Direction?**
Depression/Negativism	16	-.55	Yes
Anxiety Related Distress	16	-.25	Yes

Finding: Moderate and Low correlations were determined suggesting thate there is a lower risk of sexual recidivism risk at discharge for clients possessing higher levels of depression and anxiety-related distress, respectively. Further investigation is needed to determine whether the mediator for this finding is treatment impact upon symptoms of a mood disorder, or lower base rates of recidivism risk amongst offending juveniles with anxious and/or depressive symptoms.

TREATMENT IMPACT

Table 10. Wilcoxon Matched Pairs Test: Inferential Statistical and Clinical Difference between Beginning of Treatment and End of Treatment Measures for Dynamic Variables (non-parametric).

Variable (Pretest to Posttest)	N	*Z*	*Significance (2-Tailed)*
Peer Group Quality	16	-1.23	N.S.
Sexual Recidivism Risk*	22	-3.34	<.01
Emotion Regulation	13	-.35	N.S.
Peer Closeness	18	-1.02	N.S.
Sexual Preoccupation	18	-1.26	N.S.
Attitude Supportive of Sexual Offending	13	-1.41	N.S.
Level of Cognitive Distortion*	16	-2.64	<.01
Functional Behavior	22	-.60	N.S.
Functional Empathy	6	-1.00	N.S.
Deviant Sexual Interest in Children	15	-1.34	N.S.

* *significance reached (p<.01)*

Consistent with the results of prior analyses, statistically and/or clinically significant change in dynamic risk factors attributable to treatment received at Easton Manor appears to be mutually exclusive with notable gains in this regard made prior to admission (e.g. at Mathom House, comprising nearly all of the Easton Manor sample). Continued finding, however, of a decrease in the Level of Cognitive Distortion [use] is noted (see Table 10), as well as further reduction of overall sexual recidivism risk (see Table 11), with indications of non-significant gains in the area of deviant sexual interest as well as attitudes supporting sexually abusive behavior.

Table 11. Paired Sample T-Test of Pre-Post Treatment Difference: Overall Ratings of Sexual Recidivism Risk.

	Mean Pired Difference	*t*	*Significance*
Pre-Post Risk Score	.10	4.36	<0.01

Therapist Ratings of 25 Empirically-Derived Risk Factors contributing to Recidivism Risk evidenced a Change in Overall Risk as measured by the ERASOR. On average, clients improve by approximately 27% with regard to further reducing or 'eliminating' risk factors, with 37% of potential risk reducing to 27% by treatment end.

CLIENT OUTCOMES

Length of Stay

For all clients discharged between 2014 and 2018, an average length of stay of 7.2 months was determined (See Figure 37).

Figure 38 represents the average length of stay for clients who successfully completed Easton Manor's full curriculum; at 7.4 months, the average length of stay was only slightly longer, suggesting that individuals who ultimately are unsuccessfully discharged from Easton Manor may also progress more slowly toward the programmatic goals of occupational/financial stability and/or community placement.

Figure 37. *N = 49*

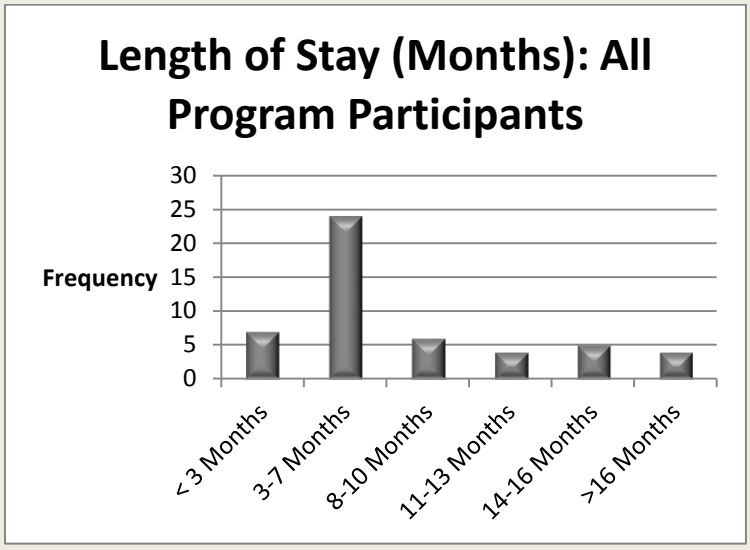
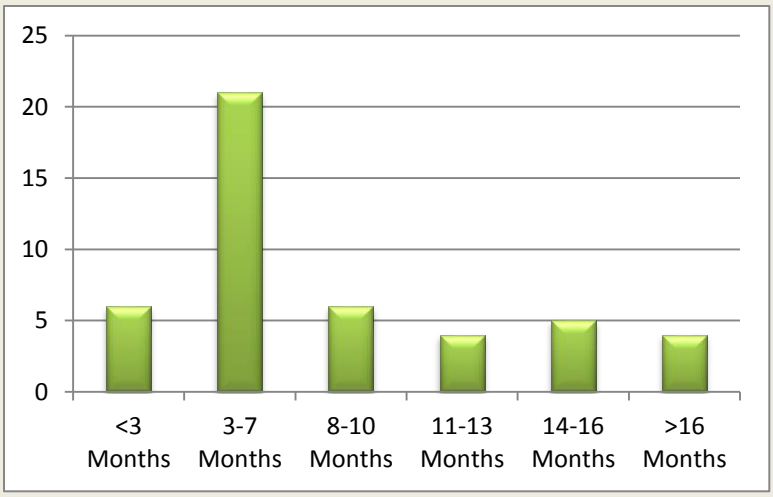


Figure 38. *N = 45* (All Residents who Successfully Completed Treatment)



Discharge Location Data

Data for residents at time of discharge indicates that all Easton Manor clients immediately move to temporary but stable residences that include temporary residence at a family/kinship home or move to college, rental apartments, or permanent family dwellings (Figure 39).

Related to Level of Family Reunification, the distribution indicated that 77% experienced Full or Imminnent Reunification, collectively, with Partial Contact and No Family Contact Groups representing far fewer discharges.

Figure 39. Residential Stability; *N = 30*

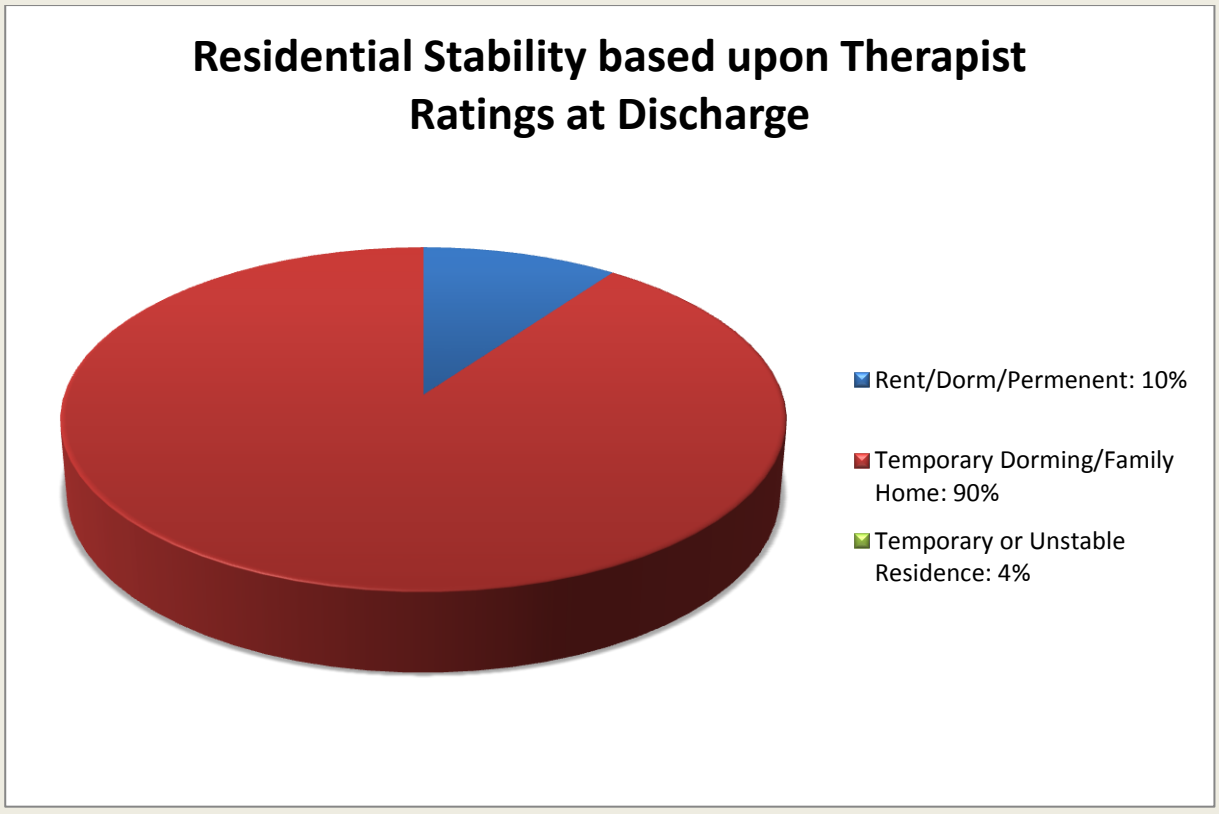


Figure 40. A continuum of Reunification; *N = 36*

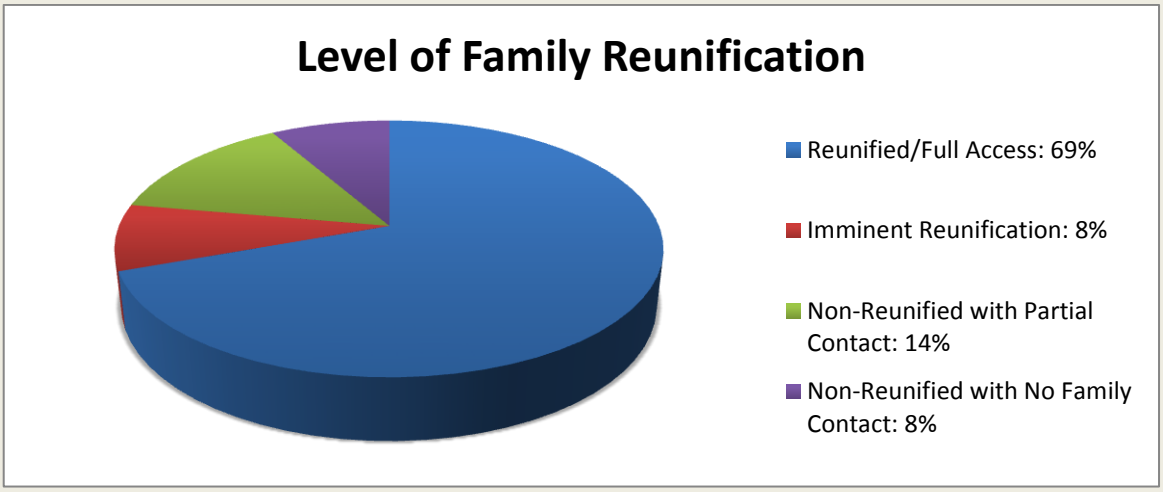
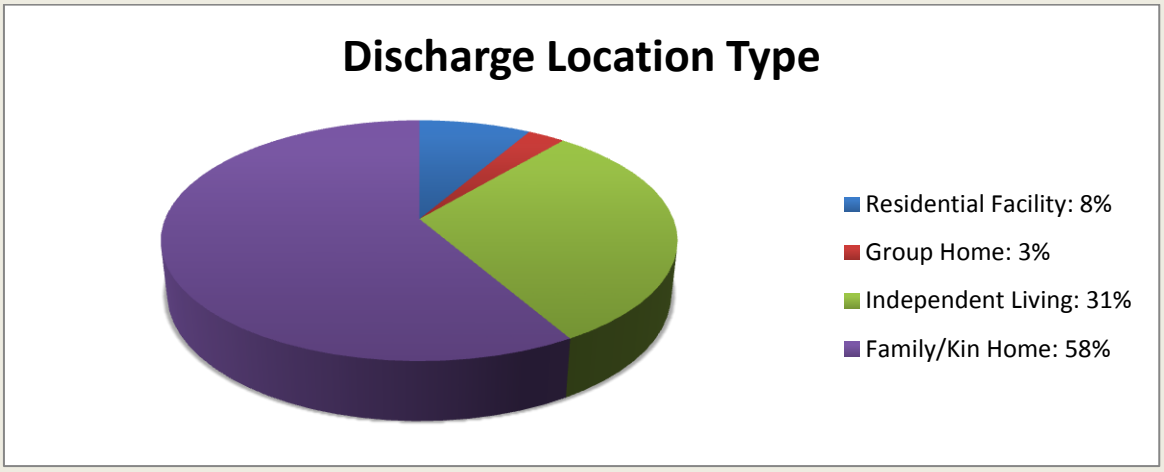
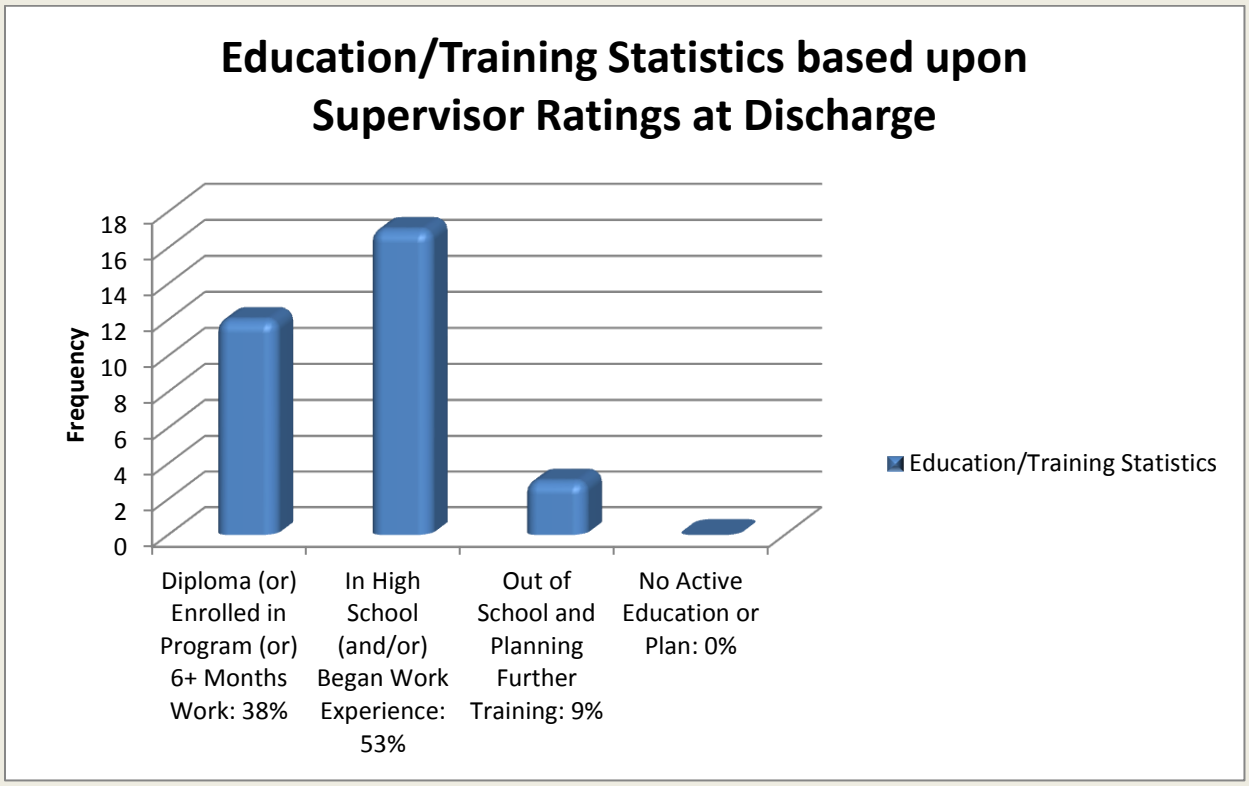


Figure 41. Discharge Location Type; *N = 36*



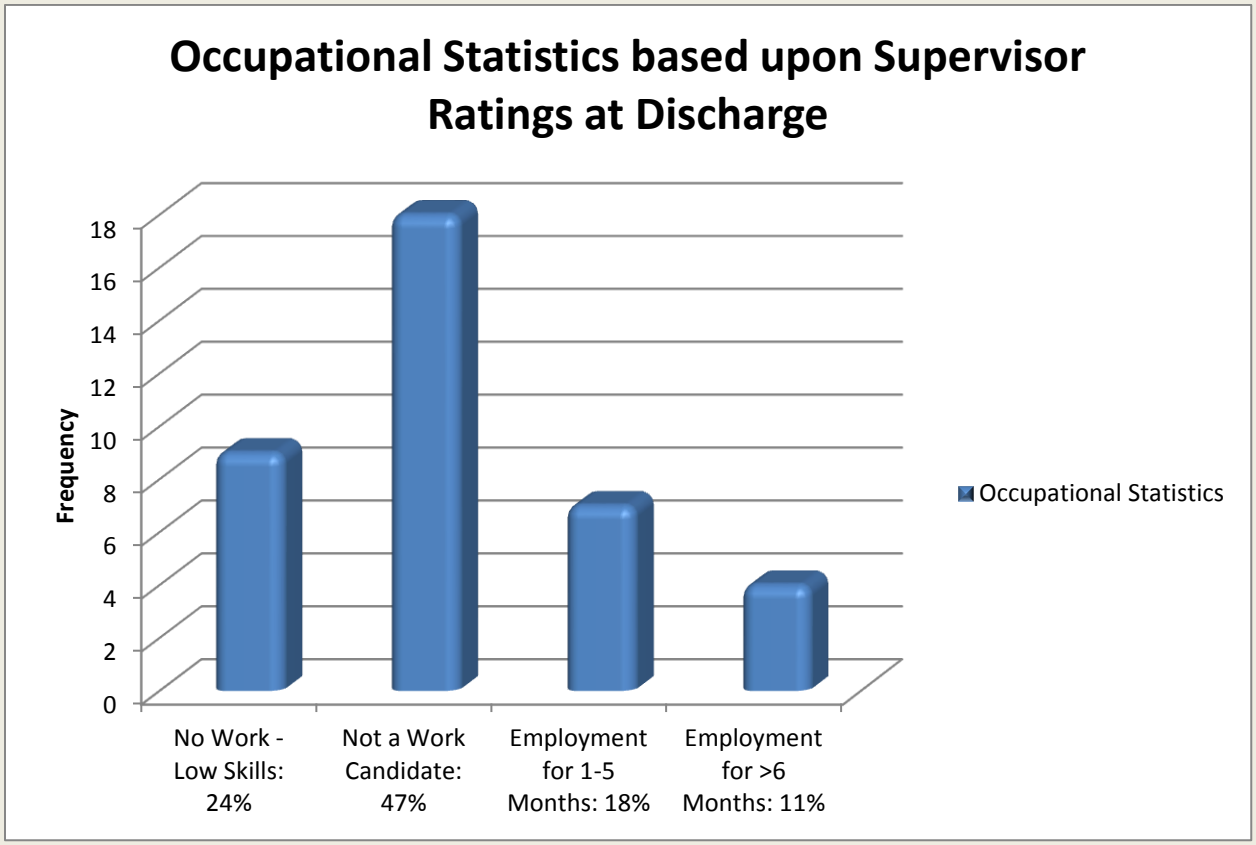
In stark contrast to their Mathom House counterparts, nearly all (84%) program discharges move to a less restrictive environment that may include the aforementioned family or kinship arrangements (be they permanent or temporary), independent living, or college dorming. Representing this majority include subgroups that are semi-permanently reinstated in their family home and rental apartment (or) dorm (or) temporary family residence. This year, far fewer discharges experienced a 'lateral' discharge to a group-home level of care (3%). Though sensitive by virtue of the relatively small sample size, an increase in treatment failures, leading to residential placement was indicated this year (8%).

Figure 42. Education/Job Training Statistics; *N = 32*



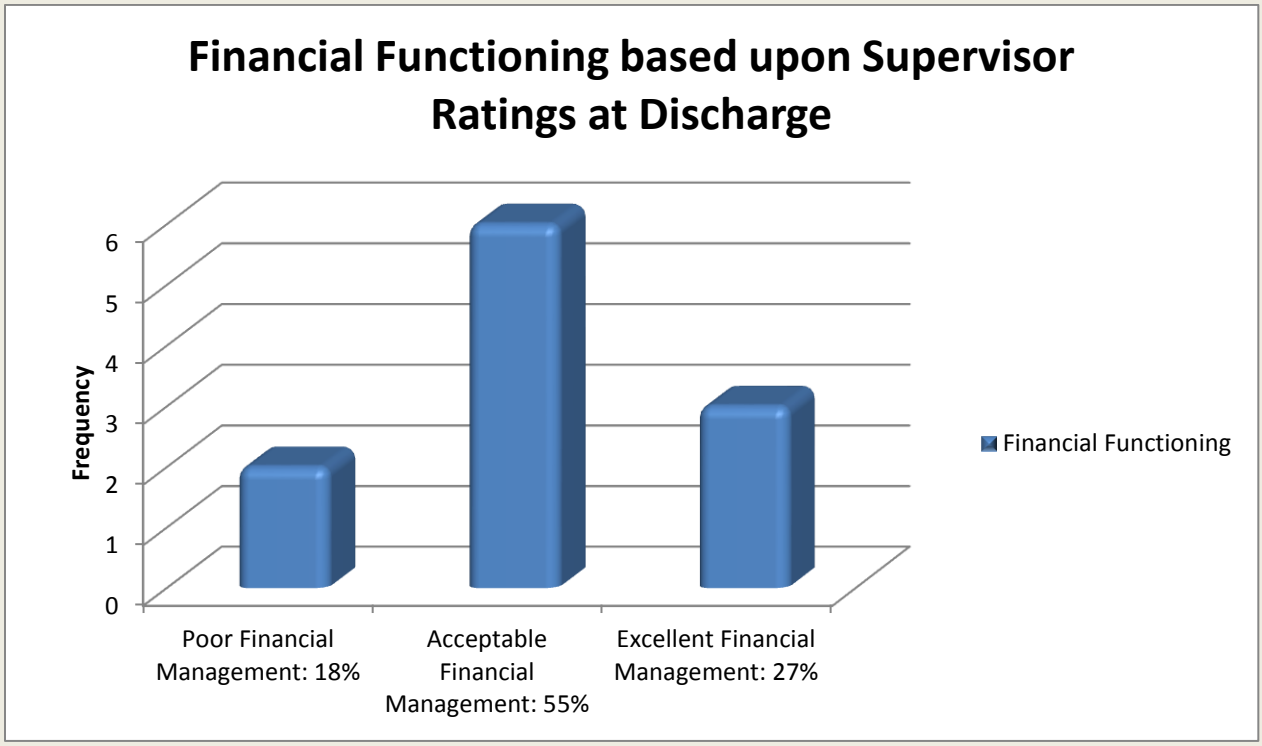
A continuum-based coding scale that combines educational achievement and occupational training experience for program discharges indicates that 38% of clients have either graduated from High School and are imminently enrolled in a technical or academic institute for further education and/or have at least 6 months of work experience behind them at time of their discharge. 53% of discharges continue to complete high school requirements or otherwise have maintained work experience for fewer than 6 months. 9% of discharges are actively planning their occupational or academic future at time of discharge.

Figure 43. Occupational Statistics; *N = 38*



Levels of occupational involvement were assessed at the point of discharge for Easton Manor residents. With paid employment or unpaid apprenticeship also serving as 'job' criteria, 29% of clients held full or part-time employment for no less than 6 months or for between 1 and 5 months. Program completion accounts for individuals who were employed for a shorter interval. 47% gained no work experience due to a lack of opportunity (e.g. limited timeframe or full-time student), and 24% did not work due to a lack of program clearance, technical skill, or intrinsic motivation.

Figure 44. *N = 11*



Beyond Occupational Statistics were findings of Financial Functioning for (working) Easton Manor residents. Based upon program manager ratings that considered both monetary earning power and funds management, 18% of the working population had poor financial management/spending habits. For all others, 55% evidenced 'acceptable' financial functioning, and 27% reflected 'excellent' financial functioning.

Post-Hoc J. **Multiple Linear Regression relating Age at Admission and Neighborhood Income to Financial Functioning.**

Model Summary

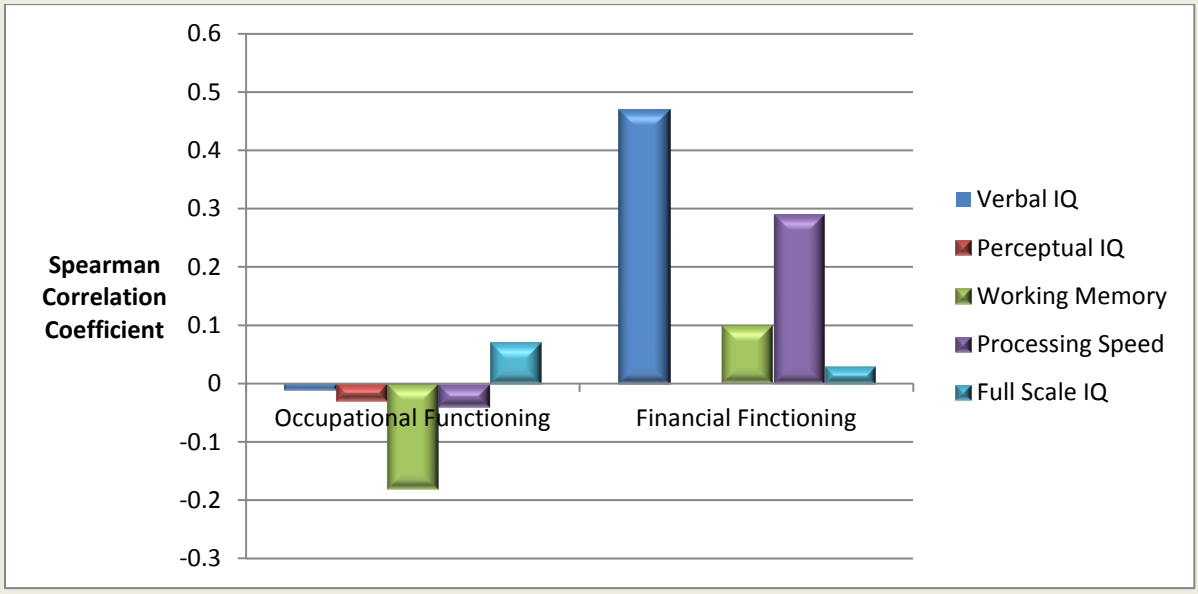
R	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
.83	.69	.60	.65

ANOVA

	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Regression	*6.65*	2	23.32	7.89	.016
Residual	*2.95*	7	.42		
Total	*9.60*	9			

Finding: A Multiple Linear Regression Model suggests that approximately two-thirds (Adjusted *R* squared=.60) of the variance in financial functioning as an outcome is explained by a combination of age at admission and neighborhood income, with most significance placed upon the latter predictor (*Beta = .74, p = .011*) such that older clients who lived in wealthier neighborhoods served as a predictor for this better outcome (*B = .26, p = .272).* To a lesser extent, older residents as a whole generated more income and/or demonstrated increased monetary responsibility (*See Post-Hoc J, p. 45).* Using Spearman correlation formula, age at admission was isolated, yielding a strong correlation of .81 to financial functioning.

Post-Hoc K. **Relationship of IQ factors to Occupational and Financial Functioning.**



Finding: This year, an interesting dichotomy of relationship between cognitive ability variables and aspects of work functioning were found; Verbal, Processing Speed, and Working Memory abilities were negatively correlated to Occupational Functioning, but related to promising financial functioning, when a job had been secured. Perhaps less surprising is the relationship found between higher Verbal Intelligence (involving reasoning and logical problem-solving) and money management.

Executive Summary, Part II:

2018

Residential Treatment Impact and Client Outcome Analysis: PATHS

PATHS: PROPOSAL FOR FUTURE INCLUSION

PATHS is the newest residential treatment affiliate of Edison Court, Inc., having been incorporated on June 23, 2017, PATHS, similar to that of Mathom House and Easton Manor, specializes on the treatment of minors presenting with, among other related issues, sexually problematic behavior.

As of the writing of this report, only several residents have graduated from the PATHS program (that currently maintins a full population of younger children, aged 10 years to 15 years, numbering eight residents), since our company began operations at this affiliate. Due to the semi-longitudinal nature of this ongoing study, allowing for a more robust sampling of data for discharged residents, analysis of PATHS treatment impact and client outcomes will likely commence once at least 10 residents are discharged from the program. Client data are already being collected, as further refinements to the nature of collection are being made.

Areas of clinical relevance to be measured include:

- Demographic Data
- Psychological Profile
  - Cognitive
  - Personality
  - Diagnostic
- Treatment Variables
  - Length of Stay
  - Specialized Interventions
- Pretest and Posttest for Treatment Targets
- Outcome Variables
  - Discharge Location
  - Level of Family Reintegration
  - Functional Levels at time of Discharge
- Recidivism

Appendix: Descriptive Data for Combined Programming

Figure 45. Prior Treatment at Mathom House; *N = 50*

As most Easton Manor clients enter following successful completion of the more intensive and restrictive treatment curriculum offered at Mathom House, only 12% of Easton Manor Clients discharged between 2014 and 2018 entered without this prior placement. This represents a trend toward serving Mathom House graduates exclusively.

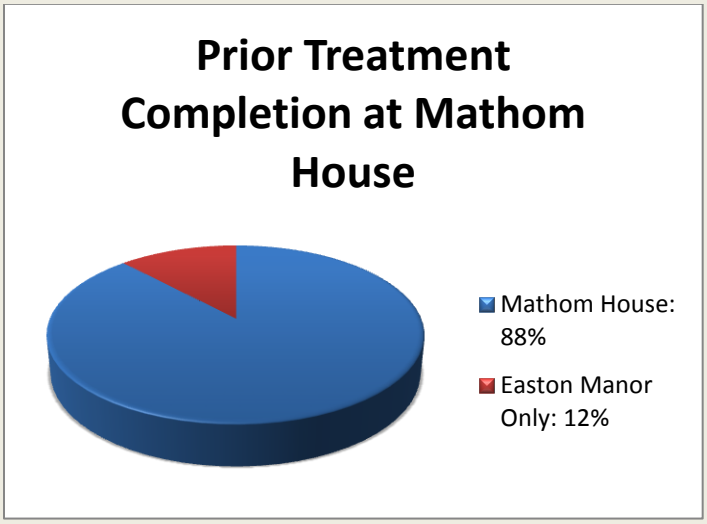


Table 12. **Relationship of Continued Residential Treatment and Sexual Recidivism Risk**

Year of Study	Pre-Mathom House Average ERASOR Risk Quotient	Post-Mathom House/Pre-Easton Manor ERASOR Risk Quotient	Post-Easton Manor Average ERASOR Risk Quotient
2016	.53	.38	.31
2017	.50	.39	.30
2018	.49	.37	.26
2019	.47	.37	.27

Figure 46. **For individuals who first completed treatment at Mathom House prior to finishing at Easton Manor, an approximate improvement of 27% on this variable was found.**

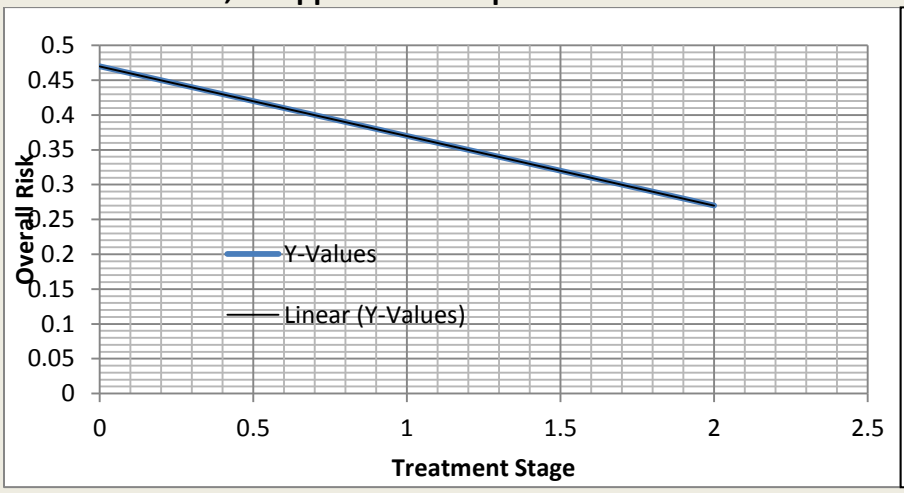


Figure 46. Linear Depiction of Reduced Sexual Recidivism Risk Across Treatment Stages:

(0) Pre-Mathom House

(1) Post-Mathom House/ Pre-Easton Manor

(2) Post-Easton Manor

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Edison Court Administration

Residential Supervisory Staff

Residential Child Care Worker Staff

Residential Clinical Therapists

Residential Administrative Staff

Families of Residential Clients

Our Affiliated Managed Care Organizations

Regional Municipal Courts,

and

Our Current and Past Clients Served.

Sincerely,

Jonathan A. Roberds, Psy.D., Clinical Director, ECI