ADVANCES AND LIMITATIONS IN CLINICAL MANIPULATIONS

NASRULLAH NASHTAR

M.Phil., Roll No.: 150697 *Session-2015-16*
Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India
nasrullah02022009@gmail.com

Abstract

Selective serotonin reuptake inhibitors are among the neuronodulators that are utilised most frequently in the therapy of depression (SSRIs). The mechanism of action of SSRIs involves inhibiting the reabsorption of serotonin in the brain. This results in an increase in serotonin levels and, consequently, an improvement in mood. It may take several weeks for SSRIs to start working, and they may cause side effects such as nausea, sleeplessness, and sexual dysfunction in some individuals. Nonetheless, SSRIs have been demonstrated to be successful in treating depression in a significant number of people. Newer forms of antidepressants, including as serotonin-norepinephrine reuptake inhibitors (SNRIs) and atypical antidepressants, have been developed as a result of recent advancements in the therapeutic usage of neuronodulators for the treatment of depression. The mechanism of action of atypical antidepressants is distinct from that of SSRIs and SNRIs; these drugs work by inhibiting the reabsorption of both serotonin and norepinephrine. Some more recent antidepressants may have fewer adverse effects than previous antidepressants, in addition to their potential efficacy in the treatment of depression in certain patients.

Keywords: Clinical, Manipulations

INTRODUCTION

Neuronodulators, also known as neuromodulators, are substances that can be used as a treatment for depression. These compounds control the activity of neurons and thereby modulate neuronal activity. There have been a number of advancements made in the clinical application of neuronodulators for the treatment of depression; however, there are also certain limitations to their efficiency as well as potential negative effects. Selective serotonin reuptake inhibitors are among the neuronodulators that are utilised most frequently in the therapy of depression (SSRIs). The mechanism of action of SSRIs involves inhibiting the reabsorption of serotonin in the brain. This results in an increase in serotonin levels and, consequently, an improvement in mood. It may take several weeks for SSRIs to start working, and they may cause side effects such as nausea, sleeplessness, and sexual dysfunction in some individuals. Nonetheless, SSRIs have been demonstrated to be successful in treating depression in a significant number of people. Monoamine oxidase inhibitors are yet another class of neuronodulators that are utilised in the treatment of depression (MAOIs). MAOIs enhance the levels of the neurotransmitters serotonin, dopamine, and norepinephrine in the brain by preventing the breakdown of these neurotransmitters during the course of their action. MAOIs have been shown to be helpful in the treatment of depression; but, because they are known to have potentially lethal interactions with a number of foods and drugs, they are not as widely prescribed as SSRIs.

Newer forms of antidepressants, including as serotonin-norepinephrine reuptake inhibitors (SNRIs) and atypical antidepressants, have been developed as a result of recent advancements in the therapeutic usage of neuronodulators for the treatment of depression. The mechanism of action of atypical antidepressants is distinct from that of SSRIs and SNRIs; these drugs work by inhibiting the reabsorption of both serotonin and norepinephrine. Some more recent antidepressants may have fewer adverse effects than previous antidepressants, in addition to their potential efficacy in the treatment of depression in certain patients.

Yet, despite these advancements, the clinical use of neuronodulators for the treatment of depression is still subject to a number of restrictions. For instance, antidepressant medication does not work for all individuals, and some patients may encounter adverse effects that make the medicine uncomfortable. Additionally, some patients may experience a relapse of depression after discontinuing medication, and long-term use of antidepressants may be associated with risks such as weight gain, an increased risk of diabetes, and decreased bone

 Nasrulla Nashtar *, *Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India.*

density. In addition, some patients may experience a relapse of depression after discontinuing medication.

In conclusion, despite the fact that there have been advancements made in the therapeutic application of neuronodulators for the treatment of depression, there are still limitations to their efficiency as well as potential side effects. It is important that decisions for therapy be made on an individual basis, with careful consideration given to the patient's symptoms, medical history, and treatment preferences, as well as the potential drawbacks and advantages of each potential course of action. The problem of treatment-resistant depression presents another another obstacle in the way of the therapeutic application of neuronodulators for the treatment of depression. Patients could not respond to the initial antidepressant treatment in some instances, or they might have a relapse of their depressive symptoms despite the fact that they are still taking medicine. When there are few, if any, therapeutic options available, this can be an extremely stressful and challenging circumstance for both the patient and their healthcare professional. In recent years, there has been a growing interest in the utilisation of several additional types of neuronodulators for the treatment of depression. Some examples of these neuronodulators include ketamine and various other glutamate receptor modulators. Ketamine is an N-methyl-D-aspartate (NMDA) receptor antagonist that has been reported to have immediate antidepressant effects in some patients. These antidepressant effects have also been observed in patients whose depression is treatment-resistant. Ketamine, on the other hand, has the potential to cause negative side effects such as dissociative sensations and changes in blood pressure. Moreover, the drug's long-term safety and effectiveness are not well established.

RESEARCH METHODOLOGY

Participants were students in the Windham School District in Texas that participated in the revised Cognitive Intervention Program (CIP2) in the first three (3) years of new program (August, 2016 through August, 2019). The participants are a convenience sample of those who have participated in the program. The data was de- identified archival data of approximately 20,587 students who completed CIP2 during this time.

Measures

Criminal thinking. The Measures of Criminogenic Thinking Styles (MOCTS) assessment is a 70-item self-report instrument designed to measure the presence of thinking styles that perpetuate criminal and maladaptive behaviors. The test consists of five scales: Total

Criminogenic Thinking, Control, Cognitive, Immaturity, and Egocentrism. The Control scale (26 items) represents thinking patterns that address an individual's need for power and control over one's own emotions, the environment, and other people. The Cognitive Immaturity scale (28 items) represents thoughts of self-pity and over-reliance on underdeveloped cognitive shortcuts such as labeling and judging. The Egocentrism scale (11 items) represents an individual's extreme feelings of uniqueness, focus on one's self, and overestimation of one's own importance. The Total Criminogenic Thinking scale (65 items) represents overall level of criminogenic thinking and consists of all the items from the three criminogenic thinking subscales. All questions are answered on a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Mixed/Neutral, 4 = Agree, 5 = Strongly Agree) with questions such as "I have often felt worthless or inadequate because of what others have said about me" or "I don't stop to think before I act, I just act". Completion of the MOCTS should take between 10 to 15 minutes. The test also includes a scale to detect inattentive response style. The Inattentiveness Scale consists of five items that direct a respondent to provide a particular response option, such as "Answer this item with Agree" or "Answer this item with Mixed/Neutral". For each of the five Inattentiveness items, there is a correct response; all other responses are considered incorrect. Answering with a correct response corresponds to a score of 0 for that items, and endorsement of an incorrect response corresponds to a score of 1 for that item. As such, the range of scores for the Inattentiveness scale is 0 to 5, with higher scores indicating more inattentive responding. Preliminary analyses (Mandracchia, 2013) suggest an optimal cut-score for identifying an inattentive respondent as 2 or higher on the Inattentiveness scale. The MOCTS is currently only available in English. The MOCTS assessment has demonstrated strong to adequate reliability of internal consistency and test-retest reliability for the Total Criminogenic Thinking scale and each of the subscales (alpha = 0.945; r = 0.62) (Mandracchia & Morgan, 2011). These values are presented in Table 3.1below:

Table 1 Reliability of MOCTS

Scale	Cronbach's Alpha	Split-Half Coefficients	Test-Retest Pearson Product Moment Correlations
Control	.917	.903	.55

 Nasrulla Nashtar *, *Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India.*

Cognitive Immaturity	.929	.908	.64
Egocentrism	.807	.790	.67
MOCTS Total	.945	.914	.62

Antisocial attitudes and associates. The Measures of Criminal Attitudes and Associates (MCAA) is a two-part assessment. Part A quantifies the number of criminal associates a person self-reports and Part B is an attitude measure consisting of four scales: Attitudes Towards Violence (12 items), Sentiments of Entitlement (12 items), Antisocial Intent (12 items), and Associates (10 items). Part A consists of five Yes/No questions regarding the four adults the individual spends the most time with and contains questions such as "Has person #1 ever committed a crime?" or "Has person #1 tried to involve you in a crime?". Part B consists of agree or disagree statements such as "It's understandable to hit someone who insults you", "Most of my friends don't have criminal records", or "Rules will not stop me from doing what I want". For the purpose of the current study, only results from Part B were collected. The MCAA's reading level is approximated at a Grade 5 level (Mills & Kroner, 2001). The MCAA has demonstrated acceptable internal consistency (alpha = .89) and moderate to high correlations with other attitude measures, such as the Criminal Sentiment Scale (CSS) scales and the Pride in Delinquency (PID), supporting its validity (Mills, Kroner, & Forth, 2002). Table 2 below provides test-retest reliability values provided in the assessment manual (Mills & Kroner, 2001).

Table 2 Test-Retest Reliability of MCAA

Scale	Test-Retest Correlation
Violence	.74
Entitlement	.77

 Nasrulla Nashtar *, *Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India.*

Antisocial Intent	.79
Associates	.66
MCAA Total	.82

TABE. The Test of Adult Basic Education (TABE) is used by educators to provide a solid foundation for effectively assessing the skills and knowledge of adult learners. The TABE is a diagnostic test used to determine an individual's skill levels and aptitudes as well as academic readiness. The standard TABE test covers reading, math, and language. For the current study, the reading test scores were used to better understand offender's reading ability and the impact on the efficacy of CIP2.

RESULTS

After removing individuals who randomly responded, the total sample size was 11,477. To explore the nature of the sample and the frequency and means of the variables being used for analysis, descriptive statistics were applied (see Tables 3 and 4). The participants were individuals who completed CIP2 in the first three years of implementation. Out of the total sample, more than 80% were males. About 40% of the sample was white, 30% was black, and 31% Hispanic. The majority of the sample's inmate type was ID (87%). The most prevalent current VPDO category was violent (44%) and the next highest was drug (23%). For current offense category, 35% of the participants were "other" and the second highest category was 17% were assault/terroristic threat/trafficking. On average, the participants had about two previous felony arrests and about three previous misdemeanor arrests. The average number of times in prison was about two, with the maximum number of times in prison being eight. The participants had on average about two previous violent, property, drug, or other arrests, indicating a history of criminal behavior. The typical age at start of CIP2 for the sample was 36 years. A mean of about 12 years of education and a TABE reading level of 10 shows that most of the sample was able to read the material. However, the minimum TABE reading level was less than one and the minimum years of education was zero, demonstrating some of the sample did not meet the minimum reading level of the CIP2 program of 7th grade.

Table 3 Characteristics of the sample (N = 11,477)

Independent Variable	Frequency	Percentage
Sex		
Female	1,911	17%
Male	9,566	83%
Race		
Black	3,446	30%
Hispanic	3,548	31%
White	4,440	39%
Other	43	< 1%
Inmate Type		
ID	9,985	87%
IS	704	6%
SAFP	7	0%
SJ	599	5%

 Nasrulla Nashtar *, *Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India.*

Current VPDO Category		
Drug	2,600	23%
Property	1,530	13%
Violent	5,069	44%
Other	1,789	16%
Current Offense Category		
Assault/Terroristic Threat/Trafficking	1,969	17%
Robbery	1,518	13%
Drug-Possession	1,390	12%
Drug-Delivery	1,207	11%
Burglary	881	8%
Other	4,023	35%

Nasrulla Nashtar *, *Department of Psychology, B.R.A. Bihar University, Muzaffarpur, India.*

Table 4 Characteristics of the sample (N = 11,477)

Independent Variable	Mean	Minimum	Maximum
Previous Felony Arrests	1.95	0.00	2.00
Previous Misdemeanor Arrests	2.55	0.00	3.00
Previous VPDO Violent Arrests	1.65	0.00	3.00
Previous VPDO Property Arrests	1.51	0.00	3.00
Previous VPDO Drug Arrests	1.60	0.00	3.00
Previous VPDO Other Arrests	2.11	0.00	3.00
Sentence Length (in Days)	4,761.00	180.00	36,525.00
Total Prison	1.63	0.00	8.00
Total State Jail	0.41	0.00	15.00
Total SAFP	0.14	0.00	4.00
Total ISF	0.28	0.00	10.00
Vocational Hours	177.00	0.00	3,527.00
Program Hours	67.00	0.00	970.00

Academic Hours	248.00	0.00	8,529.00
TABE Reading Level	10.36	0.70	12.90
Years of Education	11.59	0.00	20.00
Age at Start of CIP2	35.67	18.00	90.00
Previous Minors	0.89	0.00	219.15
Previous Majors	0.27	0.00	28.10
Previous Good Time Loss	7.38	0.00	444.22

RELIABLE CHANGE INDICES

To understand the effectiveness of the revised Cognitive Intervention Program (CIP2) on individuals, a Reliable Change Index (RCI) analysis was performed on pre-and post-MOCTS and MCAA assessments. RCI was ran on each of the MOCTS and MCAA subscale scores and on the total scores. As a result of participating in the program, there should be a decrease in criminogenic thinking, attitudes, and behavior. For the MOCTS subscale scores and total score, the scales were coded so that higher scores equate to higher levels of criminal thinking, therefore one would expect for posttest scores to be lower than pretest scores. For MCAA Part B, the items are both positive- keyed and reverse-keyed. The Attitudes Towards Violence and Sentiments of Entitlement subscales are positively keyed, while some items in the Antisocial Intent and Attitude Towards Associates are negatively keyed. For complete details see "Scoring Guide to the MCAA" in Appendix D (Mills & Kroner, 1999). To determine how an individual responded to the program material, the RCI formula took the posttest score minus the pretest score as the numerator, while the denominator is the standard error. The standard error is calculated with the following formula: $standard\ deviaton \times \sqrt{(1 - reliability)}$. Test-retest reliabilities of each subscale and total scale are found in both theMOCTS and MCAA manuals. RCI's were calculated for each individual resulting in participants being placed into one of

three categories: Improved, Unchanged, or Deteriorated. Individuals were placed in the improved category if the difference between pre-test and post-test was greater than the confidence interval, deteriorated if the difference between pre- and post-test multiplied by-1 was greater than the confidence interval, and unchanged if neither aforementioned condition was met.

The following plots in figures 4.1-4.9 are the Reliable Change Index results for each subscale and total scale scores. Due to the large sample size, only 25% of the total samplewere plotted on each graph, however, the results are indicative of the total sample. The green dots on the plots represent individuals who improved, the black dots are those there were unchanged, and the red dots are individuals who deteriorated. The first set of dotted lines to the left and to the right of the solid black line represent the upper 95% confidence interval, separating unchanged from deteriorated and unchanged from improved. The other dotted lines indicate the deviations from the 90% confidence interval and the 80% confidence interval. The complete RCI results are in Table 5 below. After completing CIP2, 4,788 (45.6%) individuals improved on antisocial attitudes and associates (MCAA) and 4,590 (40.2%) individuals improved on total criminogenic thinking (MOCTS). On the MCAA, 3,539 (33.7%) improved on Attitudes Towards Associates, 3,371 (32.1%) improved on Sentiments of Entitlement, 5,009 (47.7%) improved on Antisocial Intent, and 3,948 (37.6%) improved on Attitudes Towards Violence. On the MOCTS, 4,564 (39.8%) improved on Cognitive Immaturity, 3,563 (31.1%) improved on Control, and 3,749 (32.8%) improved on Egocentrism. Conversely, after completing CIP2, 672 (6.4%) deteriorated on antisocial attitudes and associates (MCAA) and 548 (4.8%) deteriorated on total criminogenic thinking (MOCTS). On the MCAA, 1,208 (11.5%) deteriorated on Attitudes Towards Associates, 1,649 (15.7%) deteriorated on Sentiments of Entitlement, 662 (6.3%) deteriorated on Antisocial Intent, and 830 (7.9%) deteriorated on Attitudes Towards Violence. On the MOCTS, 516 (4.5%) deteriorated on Cognitive Immaturity, 756 (6.6%) deteriorated on Control, and 1,932 (16.9%) deteriorated on Egocentrism.

Texas tech university, brooke bell, august 2020

Table 5 Statistics for the outcome variables

Measure	Sample Size	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	RCI Total Score	% Improved	Effect Size (Cohen's D)
MCAA Total	10,500	17.81	8.25	12.84	6.61	1.42	45.6%	0.66
MCAA Associates	10,500	6.56	2.26	5.67	2.43	0.67	33.7%	0.38
MCAA Sentiments of Entitlement	10,500	4.49	2.38	3.82	2.16	0.59	31.2%	0.29
MCAA Antisocial Intent	10,500	3.72	3.16	1.74	2.31	1.37	47.7%	0.72
MCAA Attitudes Towards Violence	10,500	3.04	2.98	1.61	2.19	0.94	37.6%	0.55
MOCTS Total Score	11,418	169.60	28.86	151.20	27.48	1.04	40.2%	0.65
MOCTS Cognitive Immaturity	11,466	68.66	17.64	57.68	15.26	1.04	39.8%	0.67
MOCTS Control	11,456	57.97	13.36	52.01	12.66	0.66	31.1%	0.46
MOCTS Egocentrism	11,429	43.01	5.66	41.48	6.29	0.47	32.8%	0.26
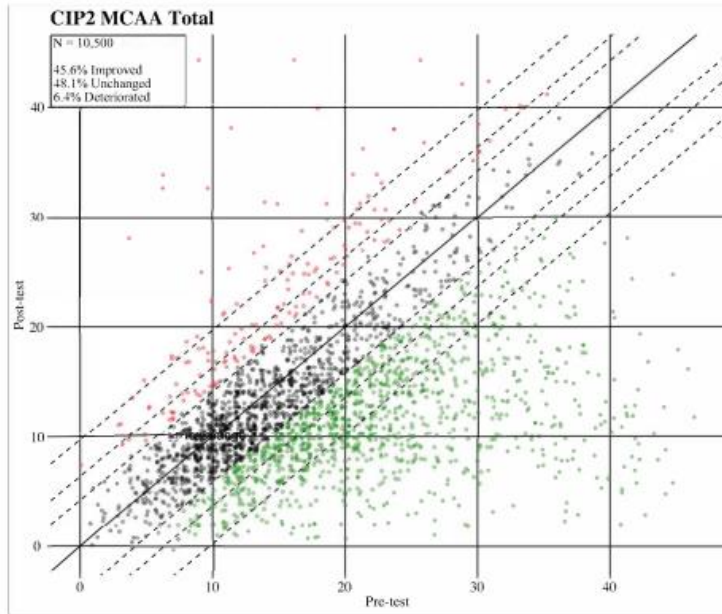
Figure 1 MCAA Total Score RCI Results
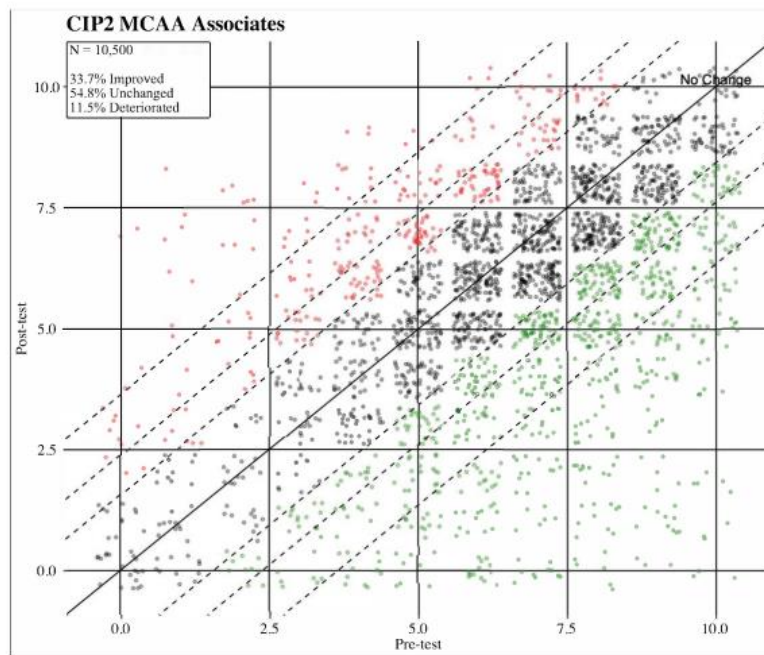
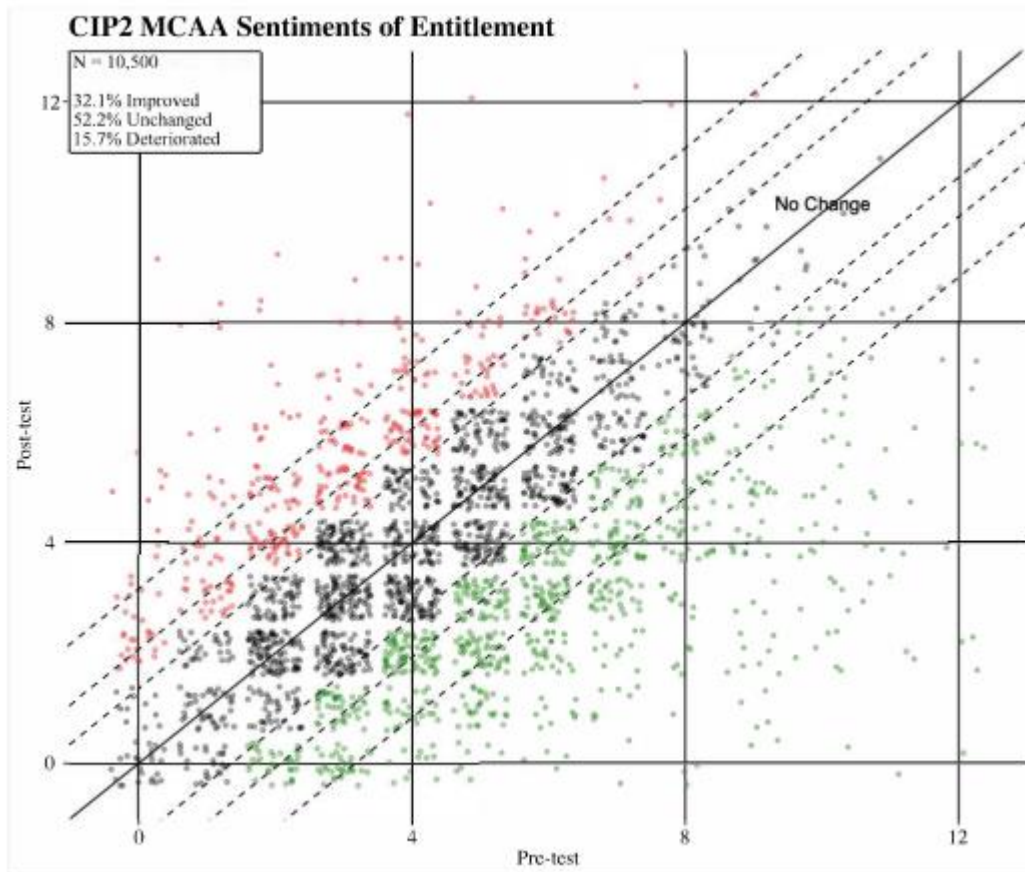**Figure 2** MCAA Associates Subscale RCI Results

Figure 3 **MCAA Sentiments of Entitlement Subscale RCI Results**

CONCLUSION

The goal of this dissertation is to determine if significant change occurred by taking the revised Cognitive Intervention Program (CIP2) and to define characteristicsthat best predict success in CIP2 with improvement in criminal thinking and attitudes. Overall, the revised Cognitive Intervention Program (CIP2) resulted in a significant percentage of participants improving from pre- to post-test on measures of criminal thinking and attitudes. Out of the 27 predictor variables, the most important predictors of reliable change were inmate type, gender, number of times in state jail, race, academic hours, age at start of CIP2, TABE reading level, and totally number of times in prison. The current study adds to existing literature around the responsivity principle of the RNR model for rehabilitation programs. Knowing what type of offender would most benefit from attending this program could potentially reduce recidivism by providing the proper rehabilitation programming to offenders before they are released.

REFERENCES

1. Aharonovich, E., Hasin, D. S., Brooks, A. C., Liu, X., Bisaga, A., & Nunes, E. V. (2006).Cognitive deficits predict low treatment retention in cocaine dependent patients.Drug and Alcohol Dependence, 81, 313-322.

2. Andrews, D. A. National Institute of Justice. (1982). Personal, Interpersonal, and Community-Reinforcement Perspective on Deviant Behavior (PIC-R). https://www.ncjrs.gov/App/Publications/abstract.aspx?ID=89816

3. Andrews, D. A. & Bonta, J. (2010). The Psychology of Criminal Conduct (PCC-5).London: Routledge, Taylor & Francis Group.

4. Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. Criminal Justice and Behavior, 17(1), 19-52.

5. Andrew, D.A., Bonta, J., & Wormith, J.S. (2006). The recent past and near future of risk and/or need assessment. Crime & Delinquency, 52, 1, 7-27.

6. Andrews, D. A., & Dowden, C. (2005). Managing correctional treatment for reduced recidivism: A meta-analytic review of programme integrity. Legal and Criminological Psychology, 10, 173-187.

7. Andrew, D. A., Guzzo, L., Raynor, P., Rowe, R. C., Rettinger, L. J., Brews, A., & Wormith, J. S. (2012). Are the major risk/need factors predictive of both female and male reoffending? A test with the eight domains of the level of service/case management inventory. International Journal of Offender Therapy and Comparative Criminology, 56(1), 113-133.

8. Andrews, D. A., Zinger, I., Hoge, R.D., Bonta, J., Gendreau, P., & Cullen, F.T. (1990).Does correctional treatment work? A clinically-relevant and psychologically informed meta-analysis. Criminology, 28, 369-404.

9. Armstrong, G., Giever, D., & Lee, D. (2012). Evaluation of the Windham School District Correctional Education Programs: Sam Houston State University, 2012. https://wsdtx.org/images/PDF/83rd/WSD_Rider6_Response.pdf

10. Bourgon, G., & Bonta, J. (2014). Reconsidering the responsibility principle: A way to move forward. Fed. Probation, 78, 3.

11. Brewin, C. R. (2005). Systematic review of screening instruments for adults at risk of PTSD. Journal of Traumatic Stress, 18, 53-62.

12. Brophy, K. (1998). Creativity: psychoanalysis, surrealism and creative writing. Carlton, Vic: The Melbourne University Press.

13. Brown, R.L., & Rounds, L.A. (1995). Conjoint screening questionnaires for alcohol and drug abuse. Wisconsin Medical Journal, 94, 135-140.