

## Research Article

# Evaluating Treatment Characteristics and Outcomes for Juvenile Sexual Offenders: A Review

Mutia Husna Avezahra<sup>1\*</sup> and Zulfauzy Abu Hasmy<sup>2</sup>

<sup>1</sup>Faculty of Psychology, Universitas Negeri Malang, Malang, Indonesia

<sup>2</sup>Faculty of Education and Psikologi, Universitas Negeri Manado, Manado, Indonesia

## Abstract.

Improving treatment effectiveness for adolescent sexual offenders is believed to be able to reduce the number of recidivism. This review aims to evaluate treatment characteristics and outcomes for the juvenile sexual offender. Existing treatments focus on sexual behavior management, primarily with cognitive behavioral theory and social learning theory. This study used EBSCO databases related to psychology science, such as Academic Search Complete, APA PsycArticles, MEDLINE, and APA PsycINFO. The search was for peer-reviewed empirical studies published between January 2010 and February 2020 with the inclusion criteria that focus on the treatment outcomes evaluations. Eleven studies categorized as mixed therapy programs, family-based treatments, and other specific treatments were reviewed and revealed limitations in methodology, which contributes to the obstruction of treatment evaluation. The key finding of this study suggests the developmental aspect of juvenile sexual offenders when designing interventions and effectivity measurements. Previous treatments for juvenile sexual offenders have developed with several approaches, such as cognitive behavioral perspectives and social learning theory.

**Keywords:** juvenile sexual offender (JSO), treatment, treatment evaluation

Corresponding Author: Mutia Husna Avezahra; email: mutia.husnaavezahra.fpsi@um.ac.id

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## 1. Introduction

Treatments or interventions for youth convicted of sexual offense becomes essential to reducing the number of criminal recidivism. In the American case, the Safer Society Press reported that more than 85% of programs for juvenile sex offenders had been implemented based on cognitive behavioral theory [1]. In nearly similar cases to American studies, in the Zurich case, the fact reported that only 13% of the juvenile offenders showed sexually problematic behavior implies that only a minority of adolescents offender received targeted support or therapy [2]. Therefore, these previous studies showed that treatment goals and strategies must be reviewed based on considerations of a particular characteristic of adolescents who experience sexual offending.

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A study conducted by [3] suggests a few minor differences in risk factors and outcomes between the young general offender and juvenile sexual offenders. Furthermore, the potency of committing general crime between both two groups is equivalent, even though adolescents sexual offenders have higher sexual recidivism, although with a low number (7.87 %, or 10 of the 127 adolescents who had committed sexual offenses) [3]. The tendency of youth convicted of sexual assault to repeat their offense may reflect that risk factor was not consistently associated with positive outcomes.

The appropriate treatment for an adolescent offender who commits a sexual offense is still under debate. Focusing on secondary prevention efforts among severe juvenile offenders may be a more effective way to improve public safety [3]. In contrast, treatment for sexual abusers should target causal risk factors during sex crimes, adopt social learning theory, and can be implemented the learning style of the individual [4].

Therefore, in this literature review, interventions and treatments in the past decade will be reviewed to identify treatment characteristics and outcomes, leading to analyze of the critical factors that may be considered in future practice and research.

## 2. Method

This study used EBSCO databases related to psychology science, such as Academic Search Complete, APA PsycArticles, MEDLINE, and APA PsycINFO. The search was for peer-reviewed empirical studies published in English between January 2010 and February 2020. Keywords used in this review were: (1) rehabilitation or therapy or treatment or intervention; (2) sexual abusers or sexual offenders; (3) youth or adolescents or young people or teens or young adults; (4) male. The exclusion criteria of this research were: (1) Female; (2) Adults; (3) Factors or causes or influences; (4) systematic review or meta-analysis; (5) sexual behavior disorder. The result of this search was 31 publications. The researcher only selected 11 articles because the inclusion criterion emphasized the outcome evaluation of a psychological intervention for juvenile sexual offenders. Based on its exploration, the researcher categorized the search outcome into three different terms based on the scope of intervention: mixed therapy approach, family-based treatment, and other unique treatments.

## 3. Results

### 3.1. Result

The results are divided into three sections, categorized by the treatments that work for the male juvenile sexual offender. The first section (3.1) evaluates the mixed therapy approach, which comes with a package of treatment offered by specific rehabilitation institutions for young sexual offenders, and this section will review three studies. The second section (3.2) clarifies family-based treatment from four studies involving offenders and parents' samples. Furthermore, the third section (3.2) identifies other particular interventions of four studies categorized by three themes: adventure-based programming, psychoeducation, and psychotherapy services.

#### 3.1.1. Mix Therapy Approach

A summary of the three reviews about mix therapy approach for the juvenile sexual offender, including treatment designs and research outlines, is presented in Table 1. In this part, different rehabilitation institutions offer three treatment programs for adolescent sexual offenders. The package program typically combines more than two interventions, and the treatment programs consist of weekly and monthly individual and group therapy sessions, Cognitive Behavioural Therapy (CBT) [5,6], family therapy sessions [6,7], Offence-specific work [5], clinical visitation and local collaborative partnership [7].

TABLE 1: Summary of Sample, Treatment Program, Research Designs and Treatment Outcomes in The Mix-Therapy Programs.

Title, Author and Year	Purpose of Research, Sample & Treatment Program	Research Method	Result
<p><b>Adolescents who have sexually harmed: An evaluation of a specialist treatment programme</b>                      Authors: Rachel Edwards, Mette Kristensen Whittaker, Richard Beckett, Daz Bishopp and Andrew Bates (2012)</p>	<p><b>Purpose of Research:</b>                      Exploring the within-treatment change in a group of adolescent males who have sexually harmed.</p> <p><b>Sample:</b>                      34 participants aged from 11 years six months to 16 years three months. They were primarily British group (79.4%); other ethnicities were black Afro Caribbean (11.8%); mixed race (5.9%); and white Other (2.9%).</p> <p><b>Treatment Design:</b>                      An offence-specific group work programme at SWAAY (a residential therapeutic provision is specialising in the treatment of adolescent males who have sexually harmed and who present with complex and diverse needs). The program consisted of:                      (1) weekly individual therapy sessions such as CBT (Cognitive Behavioural Therapy) or REBT (Rational Emotive Behaviour Therapy).                      (2) modules of 3-5 weeks' duration group program with various                      (3) Offence-specific work.</p>	<p><b>Research Design:</b>                      Repeated-measure design. The dependent variables were Psychometric change on the measurement of psychosocial functioning and offence based on (1) difference mean rank scores between pretreatment and posttreatment, (2) proportion of the sample, (3) differences in mean rank ratings for the psychosocial functioning interests, attitudes, and behaviours domains of the ERASOR. The independent variable was treatment stage: (1) pretreatment and (2) post-treatment.</p> <p><b>Data Collection:</b>                      Multiple methods of data collection by completing ERASORS rating:                      (A) Structured interviews with the adolescent and significant others.                      (B) Behavioural Incident Reports                      (C) The ASAP psychometric test battery measurement.</p> <p><b>Data Analysis:</b>                      (1) Non-parametric Wilcoxon signed-rank test to investigate the difference score between pre and post-treatment.                      (2) Independent-samples Mann-Whitney U-tests to investigate score distribution in each psychometric measurement.</p>	<p><b>Result:</b>                      (1) Pretreatment: adolescents justified by sexually harmful behaviours may have been affected by their behaviours.                      (2) Posttreatment: significant improvement in all aspects psychosocial functioning except for impulsivity.</p> <p><b>Conclusion:</b>                      This study suggests that psychosocial functioning and participants' offence related attitudes will be improved through the offence-specific group.</p>
<p><b>Evaluation of a Youth with Sexual Behavior Problems (YSBP) Outpatient Treatment Program</b>                      Authors: Jessica R. Greaves &amp; Alison Salloum (2015)</p>	<p><b>Purpose of Research:</b>                      Evaluating the program called YSBP (Youth with Sexual Behaviour Problem) - an urban community mental health that is connected with cognitive-behavioural therapy method.</p> <p><b>Sample:</b> 28 male youth offenders aged 11 -17 years old.</p> <p><b>Treatment Design:</b>                      (1) Weekly group therapy session for youth and parent                      (2) Monthly mixed-family groups                      (3) Monthly family therapy session                      (4) Monthly individual therapy session.</p>	<p><b>Research Design:</b> Exploratory Research study utilized a pre- experimental, one-group, pretest-posttest design.</p> <p><b>Data Collection:</b> Evaluating the case file from June 13, 2012, to July 25, 2012. There were three different psychometric properties consisted of (1) ERASOR (The Estimate of Risk of Adolescent Sexual Offense Recidivism), (2) CGAS (The Child Global Assessment Scale), (3) PSI- SF (The Parenting Stress Index-Short Form).</p> <p><b>Data Analysis:</b> Data were analyzed by SPSS 20.00 and tested by Independent-Sample Mann-Whitney U tests, also using Cohen's to calculate an effect size.</p>	<p>(1) A significant improvement in psychosocial functioning on both the ERASOR and CGAS scores.                      (2) A substantial decrease in parenting stress on the PSI- SF ratings.                      (3) A significant reduction in the dysfunctional Interaction Subscale of the PSI-SF                      (4) Non significant result in the area of sexual interests, attitudes and behaviours.</p>

TABLE 1: Contriued.

Title, Author and Year	Purpose of Research, Sample & Treatment Program	Research Method	Result
<p><b>Responding to youth sexual offending: a field-based practice model that "closes the gap" on sexual recidivism among Indigenous and non-Indigenous males</b>                      Authors: Troy Allard, Sue Rayment-McHugh, Dimity Adams, Stephen Smallbone &amp; Nadine McKillop (2015)</p>	<p><b>Purpose of Research:</b>                      (1) Evaluating the impact of treatment by GYPS (Griffith Youth Forensic Service) treatment model to a youth convicted severe sexual offences.                      (2) Measuring the differences of treatment impact of two different groups consisting of group 1 (Aboriginal &amp; Torres Strait Islander) and group 2 (youth residing in remote and nonremote communities).  <b>Sample:</b>                      104 male youth sexual offender adjudicated cases in between 2006 and 2012. The average age was 16.01 years.  <b>Treatment Design:</b>                      GYFS is a field-based treatment model characterised by:                      (1) clinical visitation and investigation to the person and family reside; (2) providing individualised multisystemic assessment and treatment intervention, and priorities high-risk-high-need cases; (3) Local collaborative partnership emphasizing the sustainability service to enhance the cultural and ecological aspect of treatment. The duration of treatment: (1) Has been implemented around 77-1001 days (2) Participant received 18.82 hours of individual therapy and 6.34 family therapy. (3) Therapist allocated 19.17 hours to consult with community members and professionals.</p>	<p>Research Design; Quantitative Research Design. Independent Variables were indigenous cultural heritage and remoteness. Dependent variables were sexual, violent, and another offending status—the number of days between treatment completion and when the recidivism data were extracted included as a covariate.  <b>Data Collection:</b>                      Reviewing GYFS clinical database  <b>Data Analysis:</b>                      There were two stages of data analysis:                      (1) Bivariate chi-square analyses to determine whether indigenous cultural heritage (Indigenous vs Non-indigenous) and remoteness (remote vs Non-remote) were related to sexual, violent and another offending status. (2) Follow-up time and the contribution of two independent variables were analyzed by Logistic regression analysis.</p>	<p>(1) the GYFS treatment was equally effective for both youths, indigenous and non-indigenous participants to reduce offending sexual recidivism.                      (2) the GYFS intervention model became tertiary prevention approach which is suitable for indigenous offenders and offenders who are living in a remote area.</p>

All of the studies use quantitative research designs such as repeated-measure design [5] and pre-test and post-test design [6], so it is comparable to the review of the resulting outcome at the end of this section. However, processing data by statistical analysis will be critical to producing a proper conclusion and directing to practical implications. Most studies gathered information by reviewing offender databases and reports during

treatment implementation and assessment. Only one study used multiple data collection that generated mix approach between interviews and psychometric tests [5]. Meanwhile, the rest of the studies use only psychometric tests like ERASOR (The Estimate of Risk of Adolescent Sexual Offense Recidivism), CGAS (The Child Global Assessment Scale), PSI-SF (The Parenting Stress Index-hSort Form) [6] and clinical database analysis [7]. Like the previous study, self-report and information coding to the database can limit conclusions drawn between variables [8]. In their study, [5] and [6] reported that the interventions improve psychosocial functioning. An offense-specific group may help them to reduce sexually harmful behavior and increase the aspect of psychosocial functioning [5], [6] described in more detail that there was a decrease in the dysfunctional interaction with a parent but no significant result in sexual interests, attitudes, and behaviors. The program offered in The Gateway Offence-Specific Programme and Youth with Sexual Behaviour Problems (YSBP) uses a similar approach to CBT (Cognitive Behaviour Therapy) and gives significant outcomes in behavior. CBT has become one of the recommended programs for juvenile sexual offenders that adopted behavioral and social learning theory models, which not only focus on the sexual act but also focus more on improving behavior and increasing self-control [9]. However, these reports do not show enough how participants' emotional loneliness, anger, and impulsivity contribute to the psychosocial environment.

The outcome of field-based practice shows that GYFS treatment is helpful for both indigenous and non-indigenous participants reduce recidivism [7]. Furthermore, [7] believed that the cultural approach contributed to the effectiveness of treatment, which brings a familiar setting for participants. However, intervention based on culture is still vivid in this study because the report cannot show which part of the culture can contribute to reducing recidivism. In conclusion, the package of the program for treating juvenile sexual offenders becomes an option of intervention that targets general improvement for participants helping in the community acceptance process.

### **3.1.2. Family-based Treatment**

In this part, four studies are reviewed on family-based treatment, and a summary of research components has been reported in Table 2.

TABLE 2: Summary of Sample, Treatment, Research Designs and Treatment in The Family-Based Treatments.

Title, Author and Year	Purpose of Research, Sample & Treatment Program	Research Method	Result
<p><b>Two-Year Follow-Up of a Randomized Effectiveness Trial Evaluating MST for Juveniles Who Sexually Offend/ BRIEF REPORT</b>                      Authors: Elizabeth J. Letourneau, Scott W. Henggeler, Michael R. McCart, Charles M. Borduin, Paul A. Schewe and Kevin S. Armstrong (2013).</p>	<p><b>Purpose of Study:</b>                      Examining the sustainable outcome of 12-months multisystemic therapy (MST) in the second year of follow-up.</p> <p><b>Sample:</b>                      123 male youth and their families. Youth averaged 14.7 years old, were primarily African American (54%), and 30% were Hispanic.</p> <p><b>Treatment Design:</b>                      (1) Multisystemic Therapy, family-based and delivered by community-based practitioners                      (2) Treatment as Usual (TAU), primarily group based cognitive-behavioural interventions within the juvenile justice system.</p>	<p><b>Research Study:</b>                      Quantitative Study</p> <p><b>Procedure/ Data Collection:</b>                      (1) Problem sexual behaviour: youth report and caregiver-report versions of ACSBI (Adolescent Clinical Sexual Behaviour Inventory)                      (2) Delinquency: Self-Report Delinquency Scale (SRD)                      (3) Substance use: Personal Experience Inventory (PEI).                      (4) Out-of home placements: examining the nature of change placement (incarceration setting, treatment setting or supervised living facility).</p> <p><b>Data Analysis:</b>                      Data were analysed by hierarchical logistic regression.</p>	<p><b>Result:</b>                      Youth treated with MST remained at significantly lower risk out-of-home placement through the second year of follow-up relative to their TAU counterparts.</p> <p><b>Conclusion:</b>                      The 2-year follow-up findings from this effectiveness study are consistent with favourable MST long-term results with JSO (Juvenile Sexual Offender) in efficacy research.</p>
<p><b>Parents of Adolescents who have sexually offended: Providing Support and Coping with the Experience</b>                      Authors: Sara Jones (2015)</p>	<p><b>Purpose 1:</b>                      Identifying the way parents of ASOs (Adolescent Sexual Offender) felt when providing support for their child.</p> <p><b>Purpose 2:</b>                      Describing the way of coping mechanism for parents' emotional toll</p> <p><b>Sample:</b>                      8 Caucasian and African American parents aged 39 - 65 years old. Their children were male aged 12- 17 years old.</p> <p><b>Treatment Design:</b>                      Parents involved themselves in Family Treatment Program (FTP). This group has characteristic such as an open support group attended between 4-12 members, and this group washeld once per week.</p>	<p><b>Research Design:</b>                      This study used Qualitative design research.</p> <p><b>Data Collection:</b>                      In study 1, data were collected by a semi structured interview about the support of family to ASO. The duration of the interview was around 30 - 90 minutes. In study 2, data were collected by Focus Group Discussion and interview that explored about coping strategy of ASO' parents.</p> <p><b>Data Analysis:</b>                      Data was analyzed by content analysis.</p>	<p><b>Study 1:</b>                      There were three big themes recorded in the first study such as being there (providing love and moral support, maintaining expectations and acknowledging responsibility, and maintaining accountability and rendering consequences), parental toll (feeling frustration, anger and personal defeat), and the parents' aspirations for their child's future (becoming a functional adult and a 'good person').</p> <p><b>Study 2:</b>                      Four themes addressed their ability in coping mechanism: (a) Their initial response to the offence affecting their relationship with their child, but their love for their child helped them cope and provide support to their child; (b) they felt personally responsible for their child's actions, but they were able to cope better once they accepted that they were not to blame; (c) they felt alone and overwhelmed at which times, they used prayer to deal; and (d) they benefited from the support groups at FTP because they realized that they were not alone.</p>

TABLE 2: Continued.

<p><b>The impact of Family Service Involvement on Treatment Completion and General Recidivism Among Male Youthful Sexual Offenders</b>                  Authors: Jamie R. Yoder, Jesse Hansen, Christopher Labanov-Rostovsky and Donna Ruch (2015)</p>	<p><b>Purpose of Research:</b> Investigating the usefulness of family-based rehabilitation approach.  <b>Sample:</b> 81 male sex offenders with an average 14.4 years old. Specifically, the example was mostly White (n1466; 81,5%). The majority of the sample was placed on probation (n1467;82,7%) as opposed to jail or another sentence (n1414; 17,3%) and had no prior adjudications (n1461; 75,3%)  <b>Treatment Design:</b> The family service involvement consisted of (1) family therapy (2) MDT (Multidisciplinary Team) (4) Family member in MDT (5) Informed Supervision (6) Family Reunification.</p>	<p><b>Research Design:</b> Quantitative Research Design Independent Variable was Family Service involvement, and dependent variables were treatment completion and recidivism.  <b>Data Collection:</b> Reviewing file from two different periods consisted of Group 1 (between July 1 1998- June 30, 1999) and Group 2 (July 1, 2006, and June 30, 2007).  <b>Data Analysis:</b> Using two analysis software such as PASW 18 &amp; SPSS (1) Logistic Regression Models to answer 'Are family services associated with positive outcomes (2) The Hosmer and Lemeshow test to interpret the fit model of treatment completion and recidivism.</p>	<p><b>Treatment Completion:</b> There was a good model fit <math>\chi^2(6, N=481) = 4.9, p &gt; .05</math> with 61.7% predicted of the cases of treatment completion. Youth with more significant family-based treatment likely to support treatment completion and each unit of family service involvement scale contribute 2.8 times greater rate of successful treatment.  <b>Recidivism:</b> There was a good model fit <math>\chi^2(6, N=481) = 5.8, p &gt; .05</math> with 57.5% predicted of the case of recurrence. Youth in the home placements were more likely to complete treatment.</p>
<p><b>Group intervention with Parents of Juvenile Sex Offenders</b>                  Authors: Tali Gur Bustnay (2019)</p>	<p><b>Purpose of Research:</b> Involving the parents in the therapeutic process, promoting the offenders' rehabilitation, and maintaining improvement achieved through the treatment.  <b>Sample:</b> 8 Parents of Juvenile Sexual Offender (children 15 - 17 years old). This group participant was categorized as heterogenous (different social-economical status and educational level), and all parents were secular Jewish married couples, except one.</p>	<p><b>Research Design:</b> Program report  <b>Data Collection:</b> (1) Recruiting parents via the probation officer managing the therapy. (2) Parental Questionnaires  <b>Data Analysis:</b> Questionnaires were analyzed to reveal request and expectations concerning future implications of the criminal record and the influence of committing the offences on the child's future identity.</p>	<p>Parental involvement in the treatment is valuable to prevent adolescents' antisocial behavior in particular and offensive behaviour in general.</p>

These studies have a similar purpose in examining the contribution of family involvement in the adolescent sexual offender's rehabilitation process. However, there is one difference between studies two research narrate juvenile offenders as a participant



[9,10], while two others report the observation of detainee's parents during the intervention program [11,12]. Therefore, this part will show two perspectives investigating the potency of family-based treatment contributing to offenders' aftercare.

Family therapy's main characteristic is the family's core [9,10] to multifamily group therapy [10]. On the other hand, psychoeducation characterized by open support group therapy becomes a media facilitating between parents with a similar condition.

In the methodology part, the psychometric tests dominated the quantitative study with a large sample size [9,10]; meanwhile, research with a small sample size focused more on in-depth analysis by content analysis [11]. However, the latest research should have mentioned an appropriate research method because it only processed the answer to the parental questionnaire about the expectation of intervention [12]. Another critical issue that must be concerned in Yoder's research is how data is collected. Their report reviews the database in two periods with nearly a decade of distinction between first and second-group cases. This condition may influence how data interpretation is conducted because of changed factor-like socio-economic aspect; family characteristic has happened within ten years.

The multisystemic approach can be implemented to support treatment completion by involving the role of family and community practitioners. [9] reported that Multisystemic Therapy shows effective and consistent favorable MST long-term 14 results in efficacy research. Based on this study, intensive family and community aftercare give positive feedback, which protects youth from disruptive behavior. Similar to the previous report, [1] explained that multisystemic treatment for problem sexual behavior provides mediation by caregiver discipline and negative peers. One limitation of the study by [9], even though MST enables reducing the budget of costly prison services, the study did not observe the number of decreases in rearrests.

Another study by [10] supports the previous finding that family service involvement contributes up to a 2.8 times greater rate of successful treatment and 57.5% of recidivism prediction. Although this quantitative study cannot assess the quality and the dynamic of treatment, the excellent model resulting in this study shows that the family role is essential to protect adolescents from any criminal activity in the future. Family education and treatment like SAFE-T (Sexual Abuse: Family Education and Treatment), a program developed in America, also give good results in strengthening youth and family needs to support the intervention process [9].

Furthermore, two studies with a sample of parents will give another perspective that completes the potency of family-based therapy toward the adolescent sexual offender. The first study refers to parents' Experience while providing support and coping with their situation [11]; meanwhile, the second study focuses on the contribution of group existence to help each other [12]. Even though the first study does not offer direct implications for their children, parents recognize that family treatment programs can facilitate them to connect with other parents and distribute their feelings during sentimental circumstances. This argument is supported by the second study that the group intervention of parents empowers the atmosphere of cohesion, trust, and openness. In short, the family member may be essential in helping youth offenders develop confidence and prevent antisocial or offensive behavior. However, the multisystemic approach may be suitable for high-need cases which require a high-intensity approach, so this type of treatment is not always necessary for all youth convicted of sexual offenses.

### **3.1.3. Other Special Treatments for Juvenile Sexual Offenders**

Many rehabilitation programs for juvenile sexual offenders may be similar to other adolescents with common criminality cases. However, in this part, specific targeted treatments are designed to focus on the developmental aspect of male teenage sexual offenders as unique participants. All of the studies in this part have focused on the treatment evaluations categorized as adventure-based therapy [13], Psychoeducational group intervention [14], and psychotherapy [15], [16]. The detailed outline of the research has been described in Table 3.

TABLE 3: Summary of Sample, Treatment Programs, Research Design and Treatment Outcomes in The Other Special Treatments.

Title, Author and Year	Purpose of Research, Sample & Treatment Program	Research Method	Result
<p><b>Treating Juveniles in a Sex Offender Program Using Adventure-Based Programming: A Matched Group Design</b>                      Authors: H.L. Gillis, Michael A. Gass (2010)</p>	<p><b>Purpose of Research:</b>                      (1) Examining the effectiveness of a behaviour management model using ABT (Adventure-based Therapy) named the Legacy Program with JSO (Juvenile Sexual Offender)</p> <p><b>Sample:</b> 95 male youth (ranged from 8 - 18 years old), all databased were accessed from Georgia Department of Juvenile Justice (DJJ).</p> <p><b>Treatment Design:</b> The Legacy program that incorporates with Behaviour Management through Adventure is a program which combine group process and therapeutic techniques. The core element of the Legacy program is the use of adventure experiences. This program develops personal skill such as patience, listening, seeing another's and recognizing the consequences of actions. This program is designed as a metaphor for problem behaviours.</p>	<p><b>Research Design:</b> A Matched Design Group. The participants from the Legacy program group were matched with juveniles of treatment-as-usual in YDC (Youth Development Centers) and OSP (Other Specialized Programs) group.</p> <p><b>Procedure:</b> Youth from the Legacy program were matched one-to-one with participants from YDC &amp; OSP group based on three criteria: (a) age when the first offence was committed, (b) the most serious arresting offence type, and (c) race. The effectiveness of this program measured as time of rearrest. Variables of this study identified as the time of rearrest after placement within a 1-year, 2-year, and 3-year period, and the number of days between release and rearrest.</p> <p><b>Data Analysis:</b> This study used a 2 X 3 chi-square analysis with ANOVA to compare the mean number of days between release and rearrest. Effect size also computed with the Kaplan-Meier survival functions.</p>	<p>This study found the LEGACY program participants were rearrested significantly less often over three years than participants in the other two programs. Mean differences in days until rearrest between the three groups were statistically significant <math>F(2, 282) = 3.38, p = 0.35</math>.</p>
<p><b>Psychoeducational Group Intervention for Juvenile Sex Offenders: Outcomes and Associated Factors</b>                      Authors: Anne-Marie Tougas, Marc Tourigny, Annie Lemieux, Denis Lafortune and Jean Proulx (2014)</p>	<p><b>Purpose of Research:</b>                      (1) Confirming the progress of JSO (Juvenile Sexual Offender) in the psychoeducational group intervention.                      (2) Explaining that the presence of childhood maltreatment and the relationship with family will predict this progression.</p> <p><b>Sample:</b> 128 male adolescents (age 11 - 18 years old). Full time students and Caucasian.</p> <p><b>Treatment Program:</b> In the Psychoeducational Group Intervention, the participant number only 5 - 10 JSO. The duration in each program was around two hours implemented between 24 - 30 weeks. The intervention offered was divided into 15 modules, each covering a specific topic, including legal aspects of sexual assault, adolescent sexuality, social skills and the cycle of sexual abuse.</p>	<p><b>Research Design:</b> A pre-test/ post-test pre-experimental design.</p> <p><b>Data Collection:</b> Questionnaires pre-and post-intervention &amp; semi-structured interview. There are eight self-report questionnaires used such as (1) Child's Attitude Toward Mother (CAM); (2) Child's Attitude Toward Father (CAF); (3) The Dating Questionnaire (DQ); (4) Mathtech Questions on Comfort (QMC); (5) Sex Knowledge and Attitude Test for Adolescents (SKAT-A); (6) The Matson Evaluation of Social Skills in Youngsters (MESSY); (7) The Self-Perception Profile for Adolescents (SPPA); (8) The Trauma Symptom Checklist for Children (TSC-C).</p> <p><b>Data Analysis:</b>                      (1) Purpose 1 used repeated-measures analyses of variance (ANOVA); (2) Purpose 2 used univariate repeated-measures ANOVA. The effect size measured by way of Cohen's.</p>	<p>This result in only generalizable for Caucasian adolescents who complete a psychoeducational group program.</p> <p><b>Purpose 1:</b> There was a significant result of all outcome (sex education, anger management, social skills and self-esteem), with robust effect size ranged from (.39) to large (.91).</p> <p><b>Purpose 2:</b> A participant with childhood maltreatment was significantly improve with this treatment. In contrast, there is no significant improvement in the family involvement of JSO.</p> <p><b>Conclusion:</b> Psychoeducational group was appropriate for JSO, showing the significant improvement of the targeted program development.</p>

TABLE 3: Continued.

Title, Author and Year	Purpose of Research, Sample & Treatment Program	Research Method	Result
<p><b>Therapeutic Alliance with Juvenile Sexual Offender: The Effects of Trauma Symptoms and Attachment Functioning</b>                      Authors: Rian Bovard-Johns, Jamie R, Yoder and David L. Burton (2015)</p>	<p><b>Purpose of Research:</b>                      Evaluating the unique variable of clients while experiencing treatment with therapeutic alliance. <b>Sample:</b> Male Juvenile sexual offender (N=332) living in Midwestern State. The average age of the participant was 16.70 years old.  <b>Treatment Design:</b>                      Treatment focused on sexual offending criminal behaviour and criminal thinking. There were three groups per week, one individual session per week, and one family session per month.</p>	<p><b>Research Design:</b>                      This study used a quantitative method with a survey and self-reports. There were two independent variables consisted of trauma symptom and attachment pattern. There was one dependent variable, such as therapeutic alliance.  <b>Data collection:</b>                      (1) The Trauma Symptom Checklist for Children (TSCC) for measuring trauma;                      (2) The Inventory of Parent and Peer Attachment (IPPA) for measuring attachment,                      (3) The Helping Alliance Questionnaire (HAQ-II) for measuring the Therapeutic Alliance.  <b>Data Analysis:</b>                      Data were analyzed by multivariate models with assessing multicollinearity and testing bivariate relationship. Then, all independent variables were regressed into the total helping alliance score by simple linear stepwise regression.</p>	<p><b>Result:</b>                      The final regression is significant <math>F(3/168) = 7.22. p &gt; .001.</math>                      (1) Peers attachment and communication with fathers will predict the alliance.                      (2) On the other hand, traumatic symptoms related sexual abuse negatively predicted alliance with the facilitator.                      (3) the father-child relationship is associated with the alliance.                      (4) Peer attachment also can influence the sense of self and self-esteem.  <b>Practice Implication:</b>                      (1) Encouraging father-based relationship in a family therapy program to support therapy effectiveness.</p>
<p><b>Interdependent Group Contingencies Decrease Adolescents' Disruptive Behaviours During Group Therapy: A Practitioner's Demonstration.</b>                      Authors: Kristen M. Brogan, John Michael Falligant and John T. Rapp (2017).</p>	<p><b>Sample:</b>                      17 adolescent male sexual offenders. They were all students aged 14 - 18 years old.  <b>Purpose of Research:</b>                      Evaluating to what extend an interdependent group contingency with progressive performance criteria decreased problem behaviour of juvenile sexual offender (JSO).  <b>Treatment Design:</b>                      Group therapy session (divided by two groups). Group 1 got exercise and mindfulness skill, and group 3 got coping skills. The therapy session was an average of 51 minutes.</p>	<p><b>Research Design:</b>                      Experimental Design with nonconcurrent multiple baselines (NMBL). Each group had been modified by changing criterion design. This study evaluated the extent to which problem behaviour decreased when therapists used an interdependent group contingency with a variation of a percentile schedule.  <b>Data Collection:</b>                      Observing and measuring participants response in the percentage of 10-s intervals in which students in each group engage disruptive behaviour. Data was collected by using 10-s partial interval recording (PIR).</p>	<p><b>Conclusion:</b>                      The aggregate data from Group 1 and Group 2 indicate that the interdependent group contingency progressively and systematically decreased disruptive behaviour for students in both groups.  <b>Limitation:</b>                      (1) This study did not evaluate the changes of students' task behaviour;                      (2) The observer only observed group as behaviour unit, so the result could not indicate clearly how many students' behaviour improved during the intervention.</p>

Three studies used an experimental design to evaluate their programs [13], [14,16], while one study used a survey and self-report to evaluate attachment functioning to the alliance [15]. On the other hand, all the reviews used a significant sample size except the previous research evaluating the behavioral program in group therapy [16]. Therefore,

these studies are comparable to the review even though the treatment covered had various types.

The targeted behavioral management treatment, like Adventure-based programming, shows that participants were rearrested significantly less [13]. Roleplay games as media to facilitate behavioral management improvement may be suitable for male adolescent characteristics that emphasize adventure activities. This condition allows the participants to internalize community values and adaptation processes without stressful environments. However, the only limitation of this study was that the anonymous dataset of participants could not provide preexisting mental health conditions or educational status impacting the follow-up services to these youths.

Another behavioral study was also observed in the psychotherapy setting. The result was conducted by Brogan, Falligant, and Rapp [16], suggesting that interdependent group contingency progressively and systematically decreased disruptive behavior in a group of therapy. Although this study reports the evaluation outcome in the group scale as a single unit of behavior, the interdependent group contingency can be implemented to increase the impact of group therapy on youth sexual offenders.

Psychoeducational group intervention showed a robust effect size in all outcomes, such as sex education, anger management, social skills, and self-esteem [14]. Design of intervention in group activities may fulfill adolescents' characteristic that connects them with friends in the same age groups and enable them to improve personal motivation in the learning process. On the other hand, regarding the treatment focusing on the relational aspect, there is no evidence that trauma symptoms related to sexual abuse will predict alliance. However, peer attachment and father communication will be associated with partnership in the psychotherapy process [15]. In short, the third part shows that the majority of outcomes discussion lead to focus on improving youth developmental aspects such as behavior and emotional management [13,16], thinking process [14], and relationship ability [15]. Therefore, based on this perspective, research and treatments can focus on the targeted developmental aspect; moreover, the sexual offender case may be viewed as the context covering adolescents' reality to produce socially significant improvement and successful outcomes.

## 4. Discussion

Quantitative and experimental design frameworks dominated the treatments of juvenile sexual offenders in most recent studies. Consequently, the procedures observed may lack relevancy of what young sexual offenders reflected during the risk factors assessment and rehabilitation process. [17] support this argument that a comprehensive typology of adolescent sexual offenders based on victim age, co-offender status, and criminal history is not feasible. Moreover, this study suggests four separate and independent entities that are more appropriate to describe the typology of juvenile sexual offenders based on pattern offender and victim characteristics, psychosocial adversities, family problems, alcohol use, and amount of sexual aggression.

Another criticism of all studies above is related to how information is gathered and processed into reported outcomes. Almost all of the studies used self-report and coded youth files that may have been limited in explaining the dynamic of social skills and maladaptive behaviors [8]. The methodological area of research may reflect the most challenging issue because the standard of successful treatment is very complicated. Shortly, it may consider the short-term purpose of how juveniles can function in society and the long-term goal of containing the low potency of recidivism in all criminal behaviors.

Most of the studies in this review show that reducing sexual behavior through personal & group therapy coaching [5,6,14–16], multisystemic approach [7,9], family treatment program [10–12], and adventure-based program of behavioral management [13] as the primary concern. Some studies may reflect that interventions adapt from the adult sex offender method, which less focus on the developmental aspect even though juvenile group offending shows significantly different underlying mechanisms than adult offending [17].

While the one-size-fits-all approach is inadequate to cover this issue, it is essential to focus on the adolescent perspective when planning research, treatment, and policy [3] to design a treatment formula that contains outcome-focused protection [18]. Besides, the future implication may focus on the development of national standards for evaluation, empirically robust treatment outcomes, and longitudinal studies to identify risk and protective aspects [1].

## 5. Conclusion

In summary, treatments for juvenile sexual offenders have developed with several approaches, such as cognitive behavioral perspectives and social learning theory. Most studies tend to focus on sexual behavior management to prevent recidivism. However, it is also essential to consider the developmental phase as an adolescent to design an intervention. There are two significant critiques in this review. Firstly, almost all of the research used statistical measurement that impacts the limitation of treatment evaluation. Secondly, the self-report questionnaire used in these studies may result in the faking of good outcomes as expected in society rather than an honest review from the participants. The number of studies is limited caused by the topic research used unique participants with specific characteristics.

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