The search for the holy grail: Criminogenic needs matching, intervention dosage, and subsequent recidivism among serious juvenile offenders in residential placement

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ABSTRACT

Purpose: The Risk-Need-Responsivity paradigm promotes matching of services to individualized criminogenic needs. This framework has become common lexicon, yet empirical evaluation of individual-level service matching, while including actual dosage received, is surprisingly sparse. We examine the efficacy of matching criminogenic needs to interventions within juvenile justice residential programs while accounting for the dosages of services received (contact hours and number of weeks).

Methods: We use a sample of 1678 juvenile offenders (58% Black, 12% Hispanic, 14% female) released from residential placement. Logistic regression tests whether service matching and achieving dosage targets recommended by Lipsey’s Standardized Program Evaluation Protocol (SPEP) predict greater reductions in risk from admission to discharge using a validated risk/need tool. Additionally, exact matching is used to create equivalent groups in examining whether service matching and achieving SPEP targets results in lower recidivism post-release.

Results: Service matching coupled with achieving SPEP service delivery targets results in greater risk reduction in five of ten domains examined, and significantly lower likelihood of subsequent conviction than among youth not matched to services and achieving SPEP targets.

Conclusions: Matching services to individualized assessed criminogenic needs and providing optimal intervention dosage is critical to success both within and post-residential placement for juvenile offenders.

1. Introduction

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) reported 31,487 youth in juvenile residential placement in 2015 (Sickmund, Sladky, Kang, & Puzzanchera, 2017). In the state of Florida alone 2552 juveniles completed residential placement between July 1, 2014 and June 30, 2015 (Florida Department of Juvenile Justice, 2017). Notably, the Florida Department of Juvenile Justice (FDJJ) has embarked on data-driven system reforms which have leveraged empirically validated structured decision-making tools (particularly risk/needs assessments and a disposition matrix) to ensure only the highest risk offenders are recommended for placement in juvenile residential facilities, and only after community-based alternatives have been exhausted (Baglivio, Greenwald, & Russell, 2014). The success of these and similar reforms is predicated on positioning offenders advantageously in the juvenile justice system through a Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Howell, 2003; Howell, Lipsey, & Wilson, 2014; Wilson & Howell, 1993) and standardizing the use of structured decision-making tools to ensure the right service, for each youth, at the right time in their offending careers.

Although the number of juvenile offenders being placed in juvenile justice residential settings across the United States has dropped considerably (including a decrease in operational residential capacity of 67% from 2005 to 2015 in Florida), the effective treatment and rehabilitation of these most serious offenders is critical, as the small percentage of highest risk offenders commit 50–70% of all crime (DeLisi & Piquero, 2011; Hawkins, Catalano, & Brewer, 1995; Howell, Krisberg, & Jones, 1995; Vaughn, Salas-Wright, DeLisi, & Maynard, 2013;
Wolfgang, Figlio, & Sellin, 1972). While across-state recidivism comparisons are difficult due to comparative data limitations, methodological, and measurement challenges, the official FDJJ one-year reconviction rate for youth completing residential placement is known and reported as 45% (FDJJ, 2017). Furthermore, the burden and costs these offenders place on justice systems and society generally (e.g., victimization, social, and financial), is enormous (Cohen & Piquero, 2009; Piquero, Jennings, & Farrington, 2013). Relatedly, the future success of these serious, violent, and chronic offenders arguably hinges on the provision of effective services, at appropriate dosages, matched to the youth's individualized criminogenic needs (Lipsey, Howell, Kelly, Chapman, & Carver, 2010). Unfortunately, the study of matching of services to individualized risk/needs in conjunction with the inclusion of data regarding the dosage of the intervention/services actually received by serious offenders is practically non-existent, moreover, there is limited research on the extent to which interventions received that are matched to risk/need assessment results affect subsequent recidivism (Hannah-Moffat & Maurutto, 2003; Luong & Wormith, 2011).

Toward that end, the current study uses a propensity score/quasi-experimental approach to examine whether matching interventions to individualized assessed dynamic risk/needs of juvenile offenders, provided at or above specified dosage targets, leads to greater reductions in risk during placement, and to reduced recidivism among serious offenders after having completed juvenile residential placement. First we explore prior work on service matching, reducing risk during residential placement, and appropriate evaluation of dosage provided to reduce offending. Next, the sample, data and measures, and analytic strategy is described. This is followed by the presentation of our results and discussion of findings and research and policy implications.

To reiterate, the current study focuses on this policy-relevant group of the deepest-end juvenile justice placements (long-term residential programs), as criminal career research has consistently identified a small life-course persistent, unique, group composed of only 3–10% of the most highest risk juvenile offenders (Vaughn et al., 2011, 2013). These serious and chronic offenders are distinguished by their high levels of antisocial behavior (both self-reported and official), substance use, early age of onset, and violent antisocial behavior (Baglivio et al., 2014; Vaughn et al., 2013). The current study attempts to build on prior work illustrating the seriousness of juvenile offenders previously held in residential programs, the multitude of risk factors they exude, and their deleterious subsequent outcomes (see Caudill, 2010; Lattimore, MacDonald, Piquero, Linster, & Visser, 2004; Piquero, Brame, Mazurelle, & Haapanen, 2002; Trulson, Haerle, Caudill, & DeLisi, 2016; Trulson, Haerle, DeLisi, & Marquart, 2011; Trulson, Marquart, Mullings, & Caeti, 2005). We examine whether a perfect storm of best practices, namely service matching to assessed needs, with interventions provided at appropriate dosages for adequate lengths of time, can enhance the likelihood of success among these serious, chronic offenders.

1.1. Matching services to criminogenic needs

A pillar of the prominent Risk-Need-Responsivity (RNR) paradigm holds that intervention services should target dynamic/criminogenic needs (Andrews & Bonta, 2003, 2010). Existing evidence supports recidivism reduction with increased RNR adherence (Andrews & Bonta, 2010). However, upon more nuanced examination, there are still major gaps in the RNR Need Principle research if practitioners are to move from “what works” generally to what works for whom and under what conditions; the “holy grail” of evidence-based programming. Global targeting of criminogenic needs has proven more effective than providing services that address factors not generally predictive of offending/reoffending (Andrews et al., 1990; Gendreau, Smith, & French, 2006). This line of research calls for prioritizing these criminogenic needs in efforts to curtail criminal behavior, yet does not account for whether the offenders receiving such services were assessed as having those risks/needs at the individual level. Indeed, less research has been conducted on the targeting of assessed criminogenic needs at the individual level, and much of that research has suffered from methodological or measurement shortcomings (see also Haerle, 2016), including failure to account for the actual dosage of services provided. Instead, prior work has shown that treatment “completers” fared better than “drop outs” with respect to recidivism post-treatment for adult batterers (Bennett, Stoops, Call, & Flett, 2007), adult drug offenders (Hebephin, 2005; Hiller, Knight, & Simpson, 2006), and adult male offenders (Kroner & Takahashi, 2012; see also Wormith & Olver, 2002). The number of treatment sessions adult male offenders participated in has been shown relevant to recidivism reduction (Kroner & Takahashi, 2012). Methodological advances show voluntarily dropping out of treatment increased the likelihood of drug and property offending, while getting kicked out of treatment increased violent reoffending among 5517 male juvenile offenders (Lockwood & Harris, 2015). These studies suggest that both exposure to appropriate treatment and service completion matter with respect to outcomes.

Reported recidivism reductions associated with treatment services are not trivial (Lipsey, 2009). A 38% reduction in recidivism has been indicated when probation case plans contained interventions matched to assessed needs for high risk youth, and furthermore that an absence of interventions to address a domain that was ranked medium or high risk was associated with an 82% increase in likelihood of recidivism (Luong & Wormith, 2011). Additional work demonstrated that assignment to a service matched to a criminogenic need for probation youth (individualized matching) led to a reduction in recidivism for male but not female youth (Vitopoulos, Peterson-Badali, & Skilling, 2012), and that the number of services targeting any criminogenic need reduced recidivism, but the effect between services and recidivism was stronger when the services targeted the youth’s individually matched criminogenic needs (Vieira, Skilling, & Peterson-Badali, 2009). In both studies, researchers confirmed youth either began attending/participating, or completed the assigned service to classify a “match”. Unfortunately, there was no measure of dosage or duration of services. Notably, the Vitopoulos et al. study found low levels of matching in case plan recommendations to services in critical domains such as antisocial attitudes and antisocial peer associations, arguing a lack of availability of such services in the community was partly attributable for the deficiency. Furthermore, Vitopoulos et al. (2012) classified a match of criminogenic needs to service provision based on clinical recommendations from a mental health assessment report, rather than the youth’s risk/need assessment domain scores, and they did not examine the prioritization of higher ranking criminogenic needs for individual youth. While arguably this strategy conforms to how practices actually occurred (Vitopoulos et al., 2012), it may be viewed as a limitation with respect to not using results from validated risk/needs assessments to guide case planning and adhering to RNR principles.

Length of participation in a re-entry program has been found to decrease the odds of reconviction in the juvenile justice system, although longer time in the program did not influence the likelihood of adult criminal justice convictions among 18–25 year old males (n = 75; Abrams, Terry, & Franke, 2011). While most dosage studies that track actual treatment provision metrics involve community-based samples, Bourgon and Armstrong (2005) found longer duration of a prison-based treatment program, measured as the number of days in actual treatment, was linked to lower recidivism. Haerle (2016) extended similar findings to participation in an intensive therapeutic treatment program among juvenile offenders in long-term residential facilities, finding that stronger doses decreased the likelihood of recidivism approximately 25% during a three-year follow up. However, some scholars argue that the measurement of dosage in terms of days, whether length of stay or of treatment received, is not as fruitful as operationalizing dosage as the number of hours of treatment received, yet caution that limited research exists on whether targeted treatment hours delivered over different time periods matters or not (Sperber, Latessa, & Makarios, 2013).
Furthermore, research on individualized criminogenic need matching with a higher risk residential sample (96 boys and 24 girls) found the number of interventions in case plans that address criminogenic needs (individualized) was related to institutional misbehavior such that the higher the number of matched interventions, the less externalizing behavior within the institution for boys (but not significant for girls; Singh et al., 2014). Of note, however, there was no indication in that study as to whether or not the youth actually received the interventions listed in the case plans, nor the recommended dosages, and the analyses did not examine subsequent recidivism post-completion. Knowing that targeted intervention makes facilities safer is not to be discounted, yet the ultimate goal is arguably to ascertain completion. Knowing that targeted intervention makes facilities safer is not to be discounted, yet the ultimate goal is arguably to ascertain completion. Knowing that targeted intervention makes facilities safer is not to be discounted, yet the ultimate goal is arguably to ascertain completion. Knowing that targeted intervention makes facilities safer is not to be discounted, yet the ultimate goal is arguably to ascertain completion.

1.2. Risk reduction during placement

Research examining whether offenders’ assessed risk/need scores change over time as the result of services provided has revealed that dynamic risk/need change can be measured, that changes occur over time, and that positive changes (i.e., reduction of risk, and increase in protective factors) decreases subsequent offending (Baglivio, Wolff, Jackowski, & Greenwald, 2017; Raynor, 2007; Schlager & Pacheco, 2011; Vose, Lowenkamp, Smith, & Cullen, 2009). Additional work employing samples of serious juvenile offenders demonstrated increased predictive validity from including dynamic risk rather than simply static factors (Baglivio, Wolff, Jackowski, et al., 2017; Mulvey et al., 2015; Vincent, Perrault, Guy, & Gereshenon, 2012). The vast majority of earlier research on dynamic risk changes as assessed with standardized risk/needs assessments analyzed samples of adult offenders using the Level of Service Inventory-Revised (LSI-R; Raynor, 2007; Schlager & Pacheco, 2011; Vose et al., 2009). A recent study examined change in dynamic risk during long-term residential placement among > 12,000 juvenile offenders, showing that 35% of dynamic risk change scores affected recidivism, with both current relationships, and antisocial attitudes moderating the protective effect of re-entry to neighborhoods of greater or lesser degrees of neighborhood disadvantage/affluence (Baglivio, Wolff, Jackowski, et al., 2017). Overcoming the limitation of most prior work of failing to adequately match youth on relevant initial risk indicators (initial risk scores of the standardized assessments) Baglivio and colleagues used propensity score matching to create equivalent groups at admission to residential placement among youth that recidivated and did not recidivate on static risk factors and initial dynamic risk scores (Baglivio, Wolff, Piquero, DeLisi, & Vaughn, 2017; see also Mulvey, Schubert, & Pitzer, 2016). They demonstrated, post-matching, that changes in dynamic risk factors from assessment at admission to assessment at release significantly affect recidivism likelihood (Baglivio, Wolff, Piquero, DeLisi, et al., 2017). As a result of expanding change score analyses to include both risk and protective factors in tandem, juveniles within long-term residential placement were found to progress along different trajectories in terms of risk reduction and protective factor improvement, and these trajectories during placement evidenced differences in subsequent reoffending (Baglivio, Wolff, Piquero, Howell, & Greenwald, 2017). While these studies demonstrate risk changes over time, and dynamic risk assessment matters with respect to subsequent recidivism, none of this research considered the dosage of actual services received in the measurement of dynamic risk changes. The current study aims to advance this line of inquiry by examining whether achieving specific dosage targets, set forth in Lipsey’s (2009) meta-analyses, affect dynamic risk changes. It is the potential potency of these dosage targets to which we now turn.

1.3. Standardized Program Evaluation Protocol (SPEP)

The SPEP was developed by Mark Lipsey, based on his meta-analysis of over 500 high quality studies specifically examining interventions with juveniles and offending/reoffending as an outcome measure (Lipsey, 2009). Lipsey demonstrated the risk level of the youth served (target higher risk youth), the quality/fidelity of the intervention (adhere to model intent with properly trained/credentialled staff), the dosage provided, and the type of service are the most important components in distinguishing whether a program has significant effects in reducing juvenile offending (Lipsey, 2009, 2014; Lipsey et al., 2010).

Using the four program components (service type, quality, dosage, and risk) Lipsey developed a schematic that attributes points to each component requisite with each component’s statistical contribution to reduced offending uncovered in the meta-analysis (Lipsey, 2009; Lipsey et al., 2010). As such, “those factors with stronger predictive relationships are assigned proportionately more points than those with relationships that are not as strong” (Lipsey et al., 2010, pp. 29). Scores were converted to a simple 0–100 scale with 100 being the maximum score for a given program/intervention. Initial validation studies of the SPEP have been promising (Lipsey, 2008; Lipsey, Howell, & Tidd, 2007; Redpath & Brandner, 2010).

Essential to the current study, using the pool of studies for each service type (such as CBT, group counseling, etc.), Lipsey developed dosage targets for both the number of contact hours, and the number of weeks each type of service should be provided to each given youth in order for that service to achieve the average reduction in offending evidenced in the meta-analytic models (using the median dosage values as the targets; Lipsey et al., 2010). The SPEP dosage targets, both contact hours and service duration (weeks of service), are, therefore, dependent on the type of service being delivered. Prior work has argued that case management activities should not be included in the measurement of hours of treatment (Sperber et al., 2013). This is consistent with the SPEP specification of contact hours, where only face-to-face hours of actual service provision to the youth of the particular service/treatment are included. With respect to considering both duration and contact hours to being optimal, Sperber et al. (2013) noted targeted hours may have differential impact across different periods of time (weeks, for example). Fortunately, the SPEP includes both targeted hours and targeted weeks of service. To reiterate, the target hours and target weeks are derived exclusively from the meta-analysis and are the median number demonstrated within those studies to evidence the average effectiveness for each service type.

An essential consideration of the SPEP, and crucial to both the current study and real-world service delivery, is that the SPEP accommodates “generic” programs/interventions determined to be effective in meta-analysis (Lipsey, 2009). The SPEP also is based on evidence-based practices, such more rigorously evaluated programs found in registries like Crime Solutions (crimeSolutions.gov). As such, the current study includes both interventions delivered within residential facilities that are included on various registries of evidence-based practices, as well as those homegrown programs that have match the criteria of service types (e.g., family therapy, cognitive behavioral therapy, skill building) that have been rigorously evaluated and included in the meta-analysis (and which have achieved similar and even more promising effects, Lipsey et al., 2010), in keeping with the practical utility of the SPEP.

1.4. Current study

The current study examines the efficacy of individualized...
criminogenic need matching, achieving the provision of targeted SPEP hours, and achieving targeted SPEP duration (number of weeks) of an intervention with regard to: 1) enhancing the reduction of risk during residential placement, and 2) reducing the odds of subsequent recidivism post-completion of juvenile residential programs among male and female youth. Prior work has examined matching interventions to criminogenic needs globally, individualized to the specific offender, and has examined ‘complete’ and “non-complete”, as well as days in placement and time in treatment, mostly with community-based, lower-risk samples. However, studies have not examined such concepts in tandem for serious juvenile offenders completing residential placement taking into account individualized service matching, individualized face-to-face hours, and duration of the interventions that were provided. Additionally, the current study examines the effects of this tri- fections of individualized service matching, hours, and duration on both dynamic risk reduction during placement as well as subsequent recidivism post-release. Utilizing a residential placement sample is advantageous for several reasons, including 1) being the highest risk and arguably most policy-relevant group as the vast majority of offending is committed by the top 10% of a population (DeLisi & Piquero, 2011), and 2) all of the services provided are known, unlike community-based samples where youth may have received additional services un- bekownst to case managers. The current study attempts to advance the field by using a rich data source which leverages the availability of both admission and discharge risk/need assessment and contact hours and duration of actual treatment services provided. These measures allow us to assess the effects of criminogenic need matching and achieving dosage targets on within-individual dynamic risk changes over time and subsequent recidivism among serious juvenile offenders.

1.5. Data

Data were drawn from the Florida Department of Juvenile Justice (FDJJ) archival data records maintained in their Juvenile Justice Information System (JJIS). All youth arrested under the age of 18 in Florida are included in that system, which maintains complete demo- graphic, arrest, placement, disposition, and risk/need assessment information on each juvenile. The current study examines all non-sexual offending males and females who completed a FDJJ residential program from July 1, 2014 to June 30, 2015 for which the FDJJ information system contained at least two R-PACT assessments during the placement (to assess risk changes), as well as dosage information during placement (n = 1678).1

To provide context, FDJJ juvenile justice residential facilities are located throughout Florida, and, uniquely, are 100% privatized. In Florida, only a judge can dispose a juvenile to a residential placement, and only a judge can release that juvenile. The length of stay of each placement is indeterminate, based on completion of an individualized performance and treatment plan (which are based on the R-PACT assessment of risk/needs as well as the youth’s clinical diagnoses, if applicable), not a predetermined number of days or months. The excep- tion is maximum risk facilities, which garner an 18-month minimum stay. Within programs all youth without a high school diploma or equivalent must attend school year-round. Additionally, all youth are assigned a case manager and therapist at each program and FDJJ Administrative Code requires any youth with a mental health or sub- stance abuse condition to receive treatment for that issue. Every pro- gram is specialized in that all youth placed in a given program have similar overarching treatment needs (e.g., substance abuse treatment, comprehensive mental health needs, prior sexual offending behavior), with services individually tailored within the specialized program.2

1.6. Measures

Critical to the current study are data maintained on the risk/need assessment administered to youth in residential placements, as well as information related to which specific treatment interventions/services residential youth received during placement (including for how long and how many contact hours). Specifically, the current study uses the R-PACT dynamic risk domain scores to assess changes in risk during residential placement.3 The R-PACT is administered as a semi-struc- tured interview protocol where the assessor answers multiple forced-choice responses to items across twelve distinct domains. The R-PACT software then produces both static and dynamic risk scores for each domain (except criminal history where only static risk exists). It is the highest dynamic risk scores which are targeted in case management/ treatment plans for targeting of intervention, as per the RNR model. The validity of the R-PACT has been demonstrated where exit risk scores at release are predictive of subsequent recidivism (Baglivio, Wolff, Jackowski, et al., 2017; Hay et al., 2016), in addition to the dynamic risk change score analyses discussed above.

Additionally, the FDJJ information system captures each interven- tion a youth actually participated in during placement. The start and end dates, as well as the number of face-to-face contact hours of the intervention services received by a given youth during the residential placement are compared to the SPEP targets. The data on interventions actually received also allows us to document a match of service re- ceived to one of the youth’s top three highest ranked risk factors at admission to the residential programs (as per the validated R-PACT assessment).

2. Measures

2.1. Dependent variables

2.1.1. Risk change scores

The initial risk score (at admission) and exit risk score (just prior to release) for each R-PACT dynamic domain was used to assess changes in dynamic risk during placement for each youth (static risk scores were not included, as they cannot be reduced through treatment). To main- tain consistency with prior work (Baglivio & Jackowski, 2015; Baglivio, Wolff, Jackowski, et al., 2017; Baglivio, Wolff, Piquero, DeLisi, et al., 2017; Baglivio, Wolff, Piquero, Howell, et al., 2017; Vose et al., 2009), the dynamic risk change score is the percentage change from Time 1 (admission) to Time 2 (release), equating the percentage of maximum possible risk of the exit score minus the percentage of maximum possible risk on that same domain of the initial score. The more negative the change score, the more risk was reduced during placement (the

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1 There were 2552 completions from a FDJJ residential program from July 1, 2014 to June 30, 2015. Among those youth, 52 completions were excluded for being duplicate youth with more than one completion in the year, or for not having at least two R-PACT assessments during placement. An additional 102 youth were excluded as they completed juvenile sexual offender programs and we argue this population is unique and should be examined separately in future work. A further 716 youth were excluded for not having dosage information for services received entered into the FDJJ information system (primarily due to admission dates prior to FDJJ policy where newly admitted youth are required to have that information included). Four youth were classified as “other” for race/ ethnicity and were excluded as well. These exclusions resulted in a final sample of 1678 unique juveniles. As our intent is to assess the implications of current policy to conduct at least two R-PACT assessments and enter dosage information for each placement, we argue the exclusions detailed are irrelevant to the understanding of the implications of those policies.

2 To provide context on the seriousness of the 1678 offenders, 36% were age 12 or under at first arrest, 43% have at least three prior felony adjudications, 21% had a prior adjudication for a weapon offense, 46% at least one prior against person felony ad- judication, 57% have had three or more prior placements in pre-trial detention, and 25% have completed a long-term residential placement prior to the current placement ex- amined in this study.

3 Additional information about the R-PACT assessment and its use by the Florida Department of Juvenile Justice can be found at: http://www.djj.state.fl.us/partners/our- approach/PACT/RPACT.
desired effect of treatment), while the more positive the change score, the more risk increased during placement in that domain. For example, a youth scoring 5 points of a maximum 10 on a particular domain on the initial R-PACT and 2 points of a maximum 10 on the exit R-PACT for the same particular domain would have a change score of \(-0.3\) (2/10) = \(-5/10\) = \(-0.3\), or a 30% reduction in maximum risk in that domain. As such, a dynamic risk change score was created for each of 10 dynamic domains: current academic school status, current use of structured/unstructured time, employability, current relationships while in program, current parent/caretaker relationships, current alcohol and drugs, current mental health, current attitudes/behaviors, current aggression, and current skills (see Table 1 for list of change score key dependent variables).

2.1.2. Official recidivism

The official definition of recidivism used by the FDJJ is employed in the current study. Specifically, any adjudication, adjudication withheld, or adult conviction for a new-law offense committed within 365 days of the youth completing the residential placement is classified as recidivism (=1, else = 0). As some youth were, or turned, eighteen years of age during the follow up period, both juvenile and adult convictions were used. Of the 1678 youth, 688 youth were included in the matched-case analysis (see below), of which 51% recidivated.

2.2. Key independent variables

The following measures included in the current study are used in the examination of the importance in distinguishing between juvenile risk reduction and subsequent offending. First, we describe the three measures hypothesized to affect the dependent measures (i.e., interventions matched to criminogenic needs, SPEP target contact hours, and SPEP target duration), as well as a measure capturing the achievement of all three of those conditions. Next, we group control measures into demographic, criminal history, initial risk at admission, and residential facility indicators.

2.2.1. Matching top criminogenic needs

A ‘match’ was considered each case when a youth received at least one intervention during residential placement for at least one of the youth’s three highest ranked criminogenic needs. The classification as a top three need was based on the initial R-PACT assessment. The assessed percentage of maximum possible risk for each of the 10 dynamic risk domains was used to rank order criminogenic needs (the 3 dynamic domains with the highest percentage of maximum risk = top 3). Whether an intervention received was classified as a ‘match’ to the individualized assessed criminogenic needs was based on the stated intervention description and review of curriculum topics listed in the intervention’s table of contents (i.e., the intervention was designed to address a criminogenic need that was one of the youth’s top three dynamic risk factors). Youth who received an intervention designed to address one of his/her highest three ranking dynamic risks were classified as having a match (=1, all other youth = 0). Additional information about the proportion of youth with each specific need identified as one of their top 3, as well as the types of services used to address each need is presented in Appendix A.

2.2.2. Achieving SPEP target contact hours

Youth who were provided contact hours at or above those stipulated by the SPEP for a given intervention type were classified as achieving SPEP target contact hours (=1, else = 0). Contact hours, as per SPEP, only include face-to-face hours of the actual intervention and not any case management, assessment, or other related services that may be necessary or provided in conjunction with the service. For example, for Aggression Replacement Training (ART), only hours spent in a group setting receiving one of the 30 ART sessions count as contact hours of ART. Essential to the current study is knowledge of the service type to which each intervention falls, according to the SPEP assessment. For example, according to the SPEP, ART would be classified as a cognitive behavioral intervention, while Multisystemic Therapy would be classified as family therapy. The FDJJ has been assessing each intervention provided within residential programs using the SPEP assessment since 2014. The classifications were made by FDJJ staff trained by Dr. Lipsey on the SPEP assessment. The current study uses the classifications made by FDJJ.

2.2.3. Achieving SPEP target weeks (duration)

Youth who were provided the intervention at or above the duration stipulated by the SPEP were classified as achieving SPEP target weeks/duration (=1, else = 0). Duration in weeks, as per SPEP, include only the time the actual intervention was provided, not simply the youth’s length of residential placement. For example, for Aggression Replacement Training (ART), only the weeks spent in a group setting receiving one of the 30 ART sessions count as duration of ART. The time in placement prior to receiving the first ART session, and the time in placement until the youth received 30 ART sessions, was classified as achieving SPEP target weeks/duration

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4 The use of stated targets of the intervention by the developer/curriculum material and not only those risk factors that may have been empirically demonstrated to be significantly affected is purposeful. The current study did not require a particular intervention to be “evidence-based” or have empirical proof of effectiveness. Operating under the guidelines of Lipsey’s SPEP assessment, generic service types can demonstrate effectiveness comparable to model programs when certain parameters and dosage requirements are met (Lipsey, 2009; Lipsey et al., 2010). The purpose of the current study was to allow that assumption and test whether youth were more successful (risk reduction and subsequent recidivism) when provided interventions designed to address particular risk factors that match that youth’s highest-ranking risk/needs.
placement after completion of all 30 ART sessions are not included in the duration of weeks calculations. Again, the service type (cognitive behavioral therapy, family therapy, etc.) dictates the required duration; the current study uses the classifications of each intervention made by trained FDJJ staff.

2.2.4. Complete array
This measure captures whether the youth achieved the trifecta of having a matched service, achieving SPEP target hours, and achieving SPEP target weeks. Youth who achieved all three conditions were classified as receiving the complete array (=1, all else = 0). Among the 1678 youth, 26.6% (446 youth) were considered to have received the complete array.

2.3. Control variables

2.3.1. Demographics
We include gender, race, and ethnicity as demographic controls. Gender was measured as female (=0) and male (=1), while race-ethnicity is measured using a set of dichotomous variables with 1 = Black, 1 = Hispanic, with White being the reference group. Age at release from the residential program was captured as a continuous measure. The sample was 60% Black, 12% Hispanic, and 15% female, with an average age at release of 17 years old.

2.3.2. Criminal history
Three indicators or criminal history are included as control measures. Age at first arrest is captured, as per the R-PACT as 12 years of age or under, 13–14, 15, 16, and over 16 years of age (coded 1–5, respectively), with higher values indicating an older age at first arrest. The extent of prior felony convictions was captured as none or 1, 2, 3 or 4, and 5 or more (coded 1–4), with higher values indicating a greater extent of felony convictions prior to the residential placement examined in the current study. Finally, the extent of prior residential placements was captured to compare those for which the current residential placement being examined was their first (=0), or if the youth had at least one prior residential placement before the current placement (=1).

2.3.3. Initial risk at admission
Time 1 (admission) dynamic risk scores were included to control for initial risk. For example, if a given youth received 3 of 10 maximum dynamic risk points on a specific RPACT domain at admission, the youth was measured as having 30% of maximum risk on that domain. The same 10 dynamic R-PACT domain initial risk scores were used as the dynamic domains examined for risk change scores (described above, see Table 1 control variables for list of initial risk domains).

2.3.4. Residential facility indicators
Security level dichotomous moderate = 1, high = 1, maximum risk = 1 with low risk serving as the reference group. Security risk does not differ on treatment services provided to youth, and does not necessarily translate into risk to re-offend but does have bearing on the average length of stay within the facilities. Length of stay continuous in days (mean = 256 days). In addition, the propensity score models shown below include a dummy indicator for each service provider (the private companies which run the residential facilities), to account for between-organization differences in service delivery.

2.4. Analytic strategy
Our analytic strategy is two-fold. First we assess the relationship between our key independent variables drawn from the SPEP protocol (matching risk, total hours, total weeks, and the complete array), and the reduction of risk at the youth-level. This is done using traditional linear regression where the change in risk, for each domain, represents the outcome. It is these measures that are regressed on each of our key independent variables as well as all control variables shown in Table 1. This resulted in a total of forty (40) regression models run (four independent variables for each of the 10 risk domains). Prior to running any multivariate models, collinearity between the measures was assessed. Both preliminary bivariate correlations, as well as variance inflation factors (VIF), suggest that collinearity is not an issue in the present analysis.

Secondly, the current analysis employed a propensity score matching (PSM) technique in which we estimate the effect of “treatment” on juvenile recidivism. This propensity score matching technique is useful for simulating independent assignment of a designated treatment and estimating more directly an independent variable’s effects than is typically accomplished with standard regression procedures (Apel & Sweeten, 2010; Rosenbaum & Rubin, 1983). For the purposes of our analyses, “treated” youth are those that received the complete array during their residential placement. That is, youth who received a treatment that was matched to at least one of their top three risk needs, as well as received at least the target number of hours prescribed by the SPEP protocol, and finally received at least the recommended number of weeks.

We utilized PSM techniques to match this group of 446 youth who received the complete array to youth that did not receive the complete array, yet were comparable on other observed conditions (the remaining 1232 youth were available for matching). Based on this approach, two youth with similar estimated treatment likelihood scores would be comparable on the outcome of interest. Using this approach allows us to more confidently attribute any reduction in recidivism observed to treatment quality, which in this case is defined as receiving the trifecta of a matched service, achieving SPEP target hours, and achieving SPEP target weeks.

The utility of the PSM approach adopted here is based on the assumption that no imbalance in potential confounders exists after matching (Guo & Fraser, 2010; Winship & Morgan, 1999). The accuracy of the matching relies on the quality and comprehensiveness of the designated matching variables. Said another way, any unobserved characteristics that influence the likelihood of a youth receiving the complete treatment array will undermine the matching and the accuracy of estimated effects. To address this concern, we include a range of theoretically relevant matching variables that might influence the likelihood of treatment, which again is, the concurrence of having a matched service, achieving SPEP target hours, and achieving SPEP target weeks. Accordingly, in addition to the control variables used in the regression analysis, we also control for both the judicial circuit in which a youth is located and the service provider as each of these may be related to the probability of receiving the complete array of treatment.

3. Results

3.1. Service matching, dosage, and risk reduction during placement

Table 2 presents the results of the linear multiple regression analysis. Each estimate shown in Table 2 represents a separate regression model, estimating the effect of the focal independent variable on the change in risk within each domain. Importantly, although not displayed, each model displayed also includes each of the control variables shown in Table 1.

The results shown in Table 2 suggest that youth who received an intervention designed to address one of his/her highest three ranking dynamic risks saw significantly larger declines in risk associated with alcohol and drug use as well as in aggression. Those youth who received the target number of SPEP hours saw significant declines across a number of domains, including risk associated with employment, current relationships, alcohol and/or drug use, attitudes, aggression and social skills. This suggests that receiving the correct “dosage” of a given service, operationalized here as a target number of hours, is an important
component of risk reduction.

The models shown in the third row of Table 2 display the relationship between achieving the SPEP target number of weeks and risk reduction across the ten domains. Youth who were provided the intervention at or above the duration stipulated by the SPEP saw significantly larger declines in risk associated with current relationships, attitudes and skills. The final set of models estimates the effect of receiving a treatment that was 1) matched to their top risk needs, 2) hit the target number of hours, and 3) included the recommended number of weeks prescribed by the SPEP protocol. Significantly larger declines in risk were seen across a total of five dynamic domains (relationships, substance abuse, attitudes, aggression and skills).

Overall, the results presented in Table 2 provide evidence that both matching treatment to risk/needs and assuring an adequate dosage, as measured in hours and in weeks, contributes to significant reductions in risk across a number of domains. In fact, in seventeen out of the forty regression models run, the focal independent variable has a significant effect in the anticipated direction. This far exceeds the number of significant results expected by chance alone (40 × 0.05 = 2), suggesting that the effective treatment, as defined here, plays an important role in reducing juvenile risk during residential placement.

3.2. Service matching, dosage, and subsequent recidivism

After assessing the relationship between our key independent variables drawn from SPEP and juvenile risk, we examined the relationship between effective treatment (as defined by SPEP) and juvenile recidivism using a quasi-experimental matching design. The first step of any matching analysis is to assess the extent of imbalance between the 446 youth who received the trifecta of treatment (labeled as “complete array”), from those who did not. Therefore, we compared these two groups on the set of characteristics, described above. As shown in Table 3, there was evidence of significant covariate imbalance between the two groups on a number of the measures considered. For example, nearly 90% of the complete array group were male, compared to roughly 83% of the control group ($t = 3.89$, $p < 0.01$). The group receiving a matched treatment as well as the prescribed hours and weeks were also significantly older, had spent a longer period in residential placement, and were less likely to be in a high-risk program, but more likely to be in a maximum risk program. Interestingly, youth who received the complete treatment array did not differ significantly in terms of initial risk from those who did not. However, the differences present across the two groups highlights the need to account for intrinsic differences across groups. We attempted to do so in the present analysis by applying PSM techniques to match the youth who received the complete array to a more suitable sample of youth who did not, but were comparable on all other observed characteristics.

The matching process unfolds in two steps. We first estimated propensity scores using a logistic regression analysis in which we predicted the likelihood of a youth receiving treatment which satisfied all conditions prescribed by SPEP during their residential placement ($n = 446$). This model included all of the measures shown in Table 1 as matching dimensions in addition to dummies which captured judicial circuit and program provider. We then used the estimated likelihood scores from this analysis to match SPEP youth (the fully treated group) to youth who did not meet the SPEP criteria, applying one-to-one nearest neighbor matching without replacement, and a 0.01 caliper setting. Using these specifications, matches were found for 78% of the youth in the treatment group. The remaining 102 cases fell off support during the matching procedure because no suitable matches in the pool of eligible “controls” (i.e. youth who did not receive the recommended dosage or matching service) could be found. In other words, for these unmatched cases there is no satisfactory counterfactual, at least in the sample of delinquent youth used in the current analysis.

The results suggest that the matching procedure employed yielded treatment ($n = 344$) and control groups ($n = 344$) that show strong
signs of balance on the covariates considered. For all variables, the standardized bias statistic (SBS) values in the matched samples fall below the conventional cutoffs (Rosenbaum & Rubin, 1985). We observed no significant differences across the samples on any of the characteristics considered once the groups had been matched. Using these matched groups, 344 youth who received the trifecta of having a matched service, achieving SPEP target hours, and achieving SPEP target weeks and 344 who did not, it is possible to more accurately assess the relationship between treatment (matching services and dosage) and juvenile recidivism.

Table 4 shows the results of the propensity score matching analysis, displaying the outcome (readjudication, adjudication withheld, or adult conviction) both before and after matching on the observed covariates. Before matching, youth who received services that conformed to all three SPEP criteria were only slightly less likely to recidivate within the 12 months following their release, compared to youth who received services that did not match their needs or received an insufficient amount of those services. Once matched, however, the differences between the two groups becomes statistically significant. Youth who received a matched service, achieved SPEP target hours, and achieved SPEP target weeks, were less like to recidivate than those youth who did not (46.5% vs 56.2%; p < 0.05). This suggests that services that are sensitive to the risks/needs of a juvenile and are appropriately matched, as well as adequately delivered (in terms of dosage) are associated with lower rates of recidivism among high-risk youth.

4. Discussion

The current study examined the effects of matching treatment services to youths’ highest ranking assessed criminogenic needs, and meeting or exceeding SPEP dosage (hours) and duration (weeks) targets on within-individual dynamic risk reduction and subsequent recidivism. This trifecta of matching services plus SPEP dosage and duration targets led to significantly better treatment outcomes in terms of both dynamic risk reduction during placement and lower recidivism. The domains most affected by this complete array of effective treatment provision are those often found to be the most predictive of recidivism: peer associations, criminal thinking/antisocial attitudes, substance use/abuse, aggression, and social skills deficits, even after controlling for demographics, criminal history, initial risk scores, facility type, and length of stay. Additionally, youth receiving this optimal treatment recipe evidenced a 17% lower recidivism rate upon release (1 − [0.465/0.562] = 0.173). These findings are indeed conservative estimates, as youth receiving none, one, or even two of the three trifecta components were all included in the non-treatment group.

Several limitations should be noted in the current analysis. Namely, the classification of a ‘match’ to a top criminogenic need was based on the curriculum program description and/or lesson topics, not risk factors the intervention has been empirically demonstrated to affect through a methodologically rigorous study. However, our strategy was in keeping with the intent of the SPEP in paving the way for ‘generic’ treatment services, provided they achieve the set SPEP dosage/duration targets. Additionally, the current analysis simply captured whether a top criminogenic need was met by any intervention during residential placement, not the percentage of the top three needs matched, nor the number of interventions which addressed a top three need. Furthermore, data did not permit knowledge of whether a lack of a

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Table 3
Descriptive statistics for matched and unmatched groups.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unmatched</th>
<th>Matched</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-array (n = 1232)</td>
<td>Complete array (n = 446)</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>Age</td>
<td>17.11</td>
<td>17.20</td>
</tr>
<tr>
<td>Black</td>
<td>0.61</td>
<td>0.57</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.12</td>
<td>0.13</td>
</tr>
<tr>
<td>Age at first offense</td>
<td>1.96</td>
<td>2.00</td>
</tr>
<tr>
<td>Prior felonies</td>
<td>3.04</td>
<td>3.05</td>
</tr>
<tr>
<td>Prior residential stays</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Initial school status</td>
<td>23.35</td>
<td>23.21</td>
</tr>
<tr>
<td>Initial current use of time</td>
<td>5.80</td>
<td>4.88</td>
</tr>
<tr>
<td>Initial employability</td>
<td>39.71</td>
<td>35.43</td>
</tr>
<tr>
<td>Initial current relationships</td>
<td>27.74</td>
<td>29.92</td>
</tr>
<tr>
<td>Initial current parent relationships</td>
<td>10.81</td>
<td>10.39</td>
</tr>
<tr>
<td>Initial current alcohol and drugs</td>
<td>16.32</td>
<td>16.33</td>
</tr>
<tr>
<td>Initial current mental health</td>
<td>1.53</td>
<td>1.27</td>
</tr>
<tr>
<td>Initial current attitudes</td>
<td>24.33</td>
<td>26.75</td>
</tr>
<tr>
<td>Initial aggression control</td>
<td>24.78</td>
<td>26.56</td>
</tr>
<tr>
<td>Initial current skills</td>
<td>27.35</td>
<td>32.69</td>
</tr>
<tr>
<td>Moderate risk program</td>
<td>0.79</td>
<td>0.80</td>
</tr>
<tr>
<td>High risk program</td>
<td>0.19</td>
<td>0.12</td>
</tr>
<tr>
<td>Maximum risk program</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>Length of stay (in days)</td>
<td>250.56</td>
<td>272.35</td>
</tr>
</tbody>
</table>

Note: The propensity score matching specification also includes a dummy for each program provider as well as dummy indicator for judicial circuit. Results not shown in tabular form.

* p < 0.05.
** p < 0.01 two-tailed test.

Table 4
Juvenile recidivism among youth in residential programs, matching average treatment effect estimates.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unmatched</th>
<th>Matched</th>
<th>Difference</th>
<th>S.E.</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recidivism</td>
<td>0.479</td>
<td>0.464</td>
<td>−0.015</td>
<td>0.031</td>
<td>−0.48</td>
</tr>
<tr>
<td>Recidivism</td>
<td>0.562</td>
<td>0.465</td>
<td>−0.097</td>
<td>0.039</td>
<td>2.49*</td>
</tr>
</tbody>
</table>

Note: Matched without replacement, caliper = .001. Unmatched sample: n = 1,678 (447 treated, 1,232 untreated); Matched sample: n = 688 (344 treated, 344 untreated).

* p < .05.
** p < .01 two-tailed test.
match was because services to address one of a youth’s highest ranking needs were not available in a given program, or if the youth simply was not matched to services that could have met those needs within the program. Arguably, it is worth noting the difficulties associated with untangling observable effects of any particular intervention provided within residential facilities, as several services are delivered concurrently in that context.

An additional limitation to the current study is that only dynamic risks were considered. Future work should examine the role of protective factors in tandem with risk factors (see Baglivo, Wolff, Piquero, Howell, et al., 2017), as well as non-criminogenic needs and responsiveness factors such as motivation (Brogan, Haney-Caron, NeMoyer, & DeMatteo, 2015; Mulvey, Arthur, & Reppucci, 1993). Recent work examining response trajectories to Multisystemic Therapy (MST) in the Netherlands (n = 147 adolescents) revealed that adolescents respond differently to MST, indicating the importance of personalizing treatment. (Mertens, Dekovic, Asscher, & Manders, 2017). The study authors concluded “In sum, the present study expands previous work by exploring heterogeneity in treatment response to MST…the trajectories of change during treatment improves the understanding of ‘what works for whom’ and may help adjusting treatments to the needs of specific subgroups” (Mertens et al., 2017, pp. 1287).

Examining both protective and responsivity factors would further elucidate the components of effective, individualized treatment provision.

While the current study examined the effects of service matching, dosage, and duration on recidivism, future inquiry should examine such effects on institutional misconduct. It is possible that youth for whom individualized risks are addressed through effective intervention would be less likely to engage in misconduct, infractions, and violence within the residential facility. Future work on this matter would benefit practitioners in exploring the types of misconduct most affected by providing youth with matched services at sufficient intensities.

A final limitation worth noting, concerns whether certain youth, based on their specific identified criminogenic needs are less likely to have services matched, leading to, in essence, a selection effect (see Appendix A). The Florida Administrative Rule governing the operation of residential programs, and the R-PACT standardized training that all case managers of residential program must complete call for prioritizing the top three needs, and the annual Quality Improvement review (conducted by FDJJ staff of contracted programs) holds that if the top three criminogenic goals are not addressed, authorities should look for documentation of an explicit reason. As such, the current study classifies a treatment ‘match’ as addressing one of the top three assessed criminogenic needs. The question of a selection issue is one of practical and logistic “real world” practice. Programs provide services that are stipulated in contract (the exact curriculum is stipulated, as is the number of days per week). Youth whose needs fall into the range of risk/needs factors addressed by those contracted curriculum are more likely to have their needs met based purely on that fact. The FDJJ has “commitment manager” staff who determine the particular residential program into which a youth is placed, once a judge dictates residential placement as the disposition. As such, it is not a selection issue in terms of the residential program itself prioritizing one youth over another among admitted youth.5

It is the practical case that programs prioritize curricula that address the most common needs of the populations they serve, as well as those risk factors most likely to decrease recidivism that are within their control (for example, with respect to family, this need is more difficult to address due to distance and family’s unwillingness to participate in treatment). We contend that the current study is justified in our classification of one of the top three dynamic risks needing to be matched, as this is ingrained in the Florida juvenile justice system through Administrative Rule, standardizing training, and monitoring standards. We also suggest that this is the most policy and practice-relevant question as all youth did receive treatment targeting criminogenic needs generally (if not individualized). It is a reality that for some youth the interventions used at a given program may not have targeted a given youth’s top ranked criminogenic needs.

As shown in Appendix A, it is clear most programs address antisocial attitudes, skill deficits, and antisocial peer associations. These are among the strongest factors related to recidivism (see Andrews & Bonta, 2003). However, if a given youth doesn’t have those as a top ranking risk, that youth is less likely to be classified as a treatment match (as programs have fewer services to address less empirically strong predictors of recidivism, even though those less supported factors are still deemed risk factors). By our classification of “match” focusing on the top three dynamic risks, we argue results show targeting the top three is related to a significant, and substantial recidivism reduction from treatment that is not targeted to the top three needs (i.e., we did not examine top three versus no treatment, but rather targeting assessed top three versus targeting criminogenic needs generally), thus strengthening the importance and policy implications of the work. Methodologically, we argue that control for/matching on the level of each of the initial risk factors the youth has, and matching on the total number of days in the facility prior to release (total length of stay of the placement) address systemic bias in which particular risks are targeted most often. Further, the propensity score matching specification including indicators that account for jurisdictional (i.e. circuit) and provider-level differences to account for any other sources of heterogeneity between the treated and matched groups.

The current findings lend easily to policy implications. Providing interventions to youth that do not address high ranking assessed criminogenic needs diverts limited resources from those most at need (Brogan et al., 2015), and may serve to increase lengths of stay in facilities as youth complete services irrelevant to their risks of reoffending and fail to evidence risk reduction across interva1lic risk/need reassessments. This may give the appearance that youth are either not compliant, or not progressing in treatment, when they simply are not receiving services to meet their individualized situations and risk. Interestingly, the current study evidenced a higher match to top-ranked criminogenic needs (73% of youth) than prior work with community-based juvenile probationers (57%; Flores, Travis, & Latessa, 2004), as well as institutionalized juvenile offenders (Singh et al., 2014). This may be primarily owing to the widespread availability of services, coupled with the requirement that the FDJJ residential programs develop case plans and provide such services based on assessed needs. The FDJJ is fortunate in this regard in that whether services match assessed needs is a standard by which trained Quality Improvement staff annually review and score every residential program. Additionally, the need to have case management plans that addresses assessed criminogenic needs (and the need for initial, every 90 day, and exit risk/need assessment) are components of FDJJ Administrative Rule 63E:7.001-0.016, which governs the operation of residential facilities. This demonstrates that while case management plans may match assessed risk/needs, the services youth actually receive may not follow such plan (as evidenced by the 73% match, not the ideal 100%). This should guide future work as examining case management plans for a match is not sufficient, but actual services received must be the standard for rigorous evaluation.

Prior work has found poor matches to critical domains such as attitudes and peers in community-based studies (Vitopoulos et al., 2012), while the current study demonstrated those domains were the most affected by optimal treatment (matching, dosage, and duration). While community-based services should be exhausted before the highest risk

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5 An additional logistic issue is that many of the curricula offered are “closed groups”, meaning any newly admitted youth must wait until a new cohort begins a curriculum (ex. if ART is 30 lessons and a youth is admitted when the group is on lesson 10, the youth will have to wait until that cohort ends, or another cohort begins to start on lesson 1). It is feasible a given youth will be placed into a curriculum/group that doesn’t match his/her highest ranking need, but does address some other, lower ranking identified needs. Unfortunately, data prohibit the detailed examination of such practices.
Lower risk youth receiving optimal treatment post-assessment should have lower recidivism rates, and this should be considered before the validity of the risk/needs assessment is questioned for its lower than expected AUC score or other metric.

Although some criticism levied at the RNR model for its narrow focus on dynamic risk/criminogenic needs at the expense of non-criminogenic needs is legitimate (e.g., Maruna, 2001; Ward, Mann, & Gannon, 2007; Ward, Melser, & Yates, 2007), and theoretical and empirical arguments that the RNR may be more applicable to male offenders do exist (Vitopoulos et al., 2012), the current study demonstrated the efficacy of individualized criminogenic need targeting. Future work would benefit from gender-specific analyses, as well as analyses across different age groups of youth. As this is the first study to our knowledge to account for individualized service matching in conjunction with SPEP target contact hours and duration, we argue the current work advances the field nonetheless and strives to push future work toward incorporating treatment dosage in a much more refined manner.

5. Conclusion

As suggested by prior work (Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Wormith et al., 2007), the current study provided a more nuanced investigation of individualized need-to-service matching while examining what have heretofore been largely “black box” service dosage/duration components. Individualized matching of services to criminogenic needs matters. Interventions should be matched to individualized dynamic risk/needs, not simply address criminogenic needs globally. Receiving adequate dosages of matched services for adequate lengths of time matters. The current study demonstrates that these components enhance treatment success. Perhaps the focus on these three components of effective treatment moves our field closer to ‘what works for whom’ rather than simply examining aggregate strategies such as the basic adoption of interventions that target criminogenic needs globally. Hopefully these conversations will give impetus to future research in which the field advances from ‘what works’ to a clearer understanding of what makes it work.

Guided by the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders (Wilson & Howell, 1993; for updates, see Howell et al., 2014), which recommends use of a disposition matrix that helps align placements in accordance with degree of risk, Florida has made enormous progress over the past decade in reducing use of residential placement and matching offenders at elevated risk with appropriate services. An earlier analysis concluded that “the implementation of a disposition matrix and the systematic collection of data to track adherence with regular feedback to frontline staff and supervisors proved instrumental in FDJJ’s movement toward system reform” (Baglivio et al., 2014, p. 39). This added efficiency of resource utilization may have promoted responsivity of offenders to service options observed in the current analysis—in accordance with the RNR model. With the demonstrated benefits of service matching in the present study, it must be acknowledged that the FDJJ has moved appreciably closer to the ‘holy grail’ of system reform, ensuring the right service to the right youth, in the right dosage, and at the right time.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jcrimjus.2018.02.001.

References


recidivism reduction for the initial SPEP sample. Nashville: Vanderbilt University, Center for Evaluation Research and Methodology.


Vitopoulou, N. A., Peterson-Badali, M., & Skilling, T. A. (2012). The relationship between...
matching service to criminogenic need and recidivism in male and female youth: Examining the RNR principles in practice. Criminal Justice and Behavior, 39(8), 1025–1041.