TREATMENT AND PRACTICE PROFILES OF YOUTH WITH SEXUAL MISCONDUCT PROBLEMS IN USUAL CARE

Doctor of Philosophy in Psychology

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Dedication

To my parents, for their love and support and for providing me with the best education possible.

To my husband, who always believes in me.

To my best friend and constant companion in graduate school, who goes above and beyond to keep me going when I want to give up.

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Abstract

From a common dataset, three analyses on related samples were conducted to describe the therapeutic practices and associated treatment targets provided to youth who had sexual misconduct (SM) targeted as part of their mental health treatment. The first analysis examined the demographic and clinical differences between youth with (n=479) and without SM (n=3885) who received treatment across all levels of care. To control for demographic and placement variance across levels of care, coarsened exact matching was used to create a comparable sample of youth at the intensive in-home level of care (142 youth with SM and 479 youth without SM). The second analysis examined whether mean treatment target and practice element dosage, diversity and factor scores differed depending on group membership. To examine whether treatment patterns for youth with SM clustered into groups in a meaningful way and to account for variance in treatment patterns, a third analysis was conducted where cluster analyses were performed on a sample of male youth who received treatment for juvenile sexual offending at a single residential facility (N=49). Results showed youth with SM had more co-occurring disorders, greater functional impairment, longer treatment episodes and were more likely to be placed out of home compared to youth without SM. In the matched sample of youth at the intensive in-home level of care, youth with SM received more interventions and a greater number of total unique interventions attempted during their treatment episode. SM youth also had a greater number of total treatment targets and total number of unique treatment targets attempted during their treatment episode. Youth clustered into unique groups based practice and treatment profiles. Treatment target cluster groups bore some similarities to prior hypothesized pathways to sexual misconduct. Practice element cluster groups did not cluster in manner which would suggest therapists are consistently using a structured, manualized, evidence-based treatment approach.

This study provided novel insights into treatment as usual for youth with sexual misconduct and contributed to prior research that showed youth with SM are a heterogeneous group with diverse practice and treatment needs.

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Introduction

Youth with sexual misconduct problems are a diverse group, often described and viewed differently within the research literature depending on whether youth are in the juvenile justice or mental health systems, with varying developmental pathways and limited known treatment response across these groups (Chaffin, 2008). This diversity is reflected in different definitions of sexually aggressive and/or inappropriate behavior that depend on whether such behavior is manifested in childhood ("sexual behavior problems" defined as SBP) or adolescence ("juvenile sexual offending/offenders" defined as JSO), or whether it is holistically categorized to include all youth with sexual behavior problems regardless of developmental stage or legal standing ("sexual misconduct" (defined as SM; NCSBY, 2003a; NCSBY, 2003; MTPS; CAMHD, 2016). The developmental psychopathology of sexual behavior problems (SBP) in children is believed to differ compared to juvenile sexual offending (JSO; Chaffin, Letourneau, & Silovsky, 2002). Although specific pathways to SBP in children have not been found, JSO can arise from a general delinquency trajectory and/or special pathways defined by distinct behavioral risk factors (Seto & Lalumiere, 2010). There are numerous treatment approaches used for SBP and JSO, but there are very few well-controlled efficacy or effectiveness studies comparing proposed treatment models against treatment as usual (TAU). Furthermore, there is considerable public misperception and controversial public policy about juvenile sexual behavior problems and juvenile sexual offenders (Finkelhor, Ormrod, & Chaffin, 2009; Friedrich, 2007). Such misconceptions might be interfering with scientific progress on understanding sexual misconduct in youth and might be affecting TAU, particularly given the paucity of strong treatment outcome studies (Chaffin, 2008).

Definitions

The National Center on the Sexual Behavior of Youth (NCSBY, 2003a, p.1) defined children with “sexual behavior problems” (SBP) as children “12 years and under who demonstrate developmentally inappropriate or aggressive behavior.” This definition is derived from cultural expectations of normative sexual development. It included self-focused sexual behavior (e.g. excessive masturbation) and sexual behavior towards others (including other children) that may or may not include coercion or force (NCSBY, 2003). These behaviors might be related to sexual gratification or stimulation, but can also be related to curiosity, impulsivity, anxiety, imitation, attention seeking, self-calming, or other reasons (Chaffin et al., 2008). In contrast, the term “juvenile sex offenders” (JSO) described youth between the ages of 13 and 17 who engaged in illegal sexual behavior (defined by the sex crime statutes in their jurisdictions; NCSBY, 2003). The JSO definition is based on the commission of illegal sexual behavior, not the application of legal sanctions. As such this definition included youth 13 and over who are and are not adjudicated (Brown, 2013). The term JSO created a misperception of excessive homogeneity of behavior (Chaffin, 2008). A third definition vital to the present study incorporated both SBP and JSO. In Hawai‘i’s Child and Adolescent Mental Health Division (CAMHD and the source of the study data) clinicians indicated treatment targets including “sexual misconduct” on mandatory *Monthly Treatment and Practice Summary* forms (MTPS; CAMHD, 2008). The MTPS defined sexual misconduct (SM) as “issues related with sexual conduct that is defined as inappropriate by the youth’s social environment or that includes intrusion upon or violation of the rights of others” (MTPS Codebook, CAMHD, 2008, p.5). These three terms, sexual behavior problems (SBP), juvenile sexual offenses (JSO) and the more general sexual misconduct (SM), were used in their specific meaning, given the scientific literature often segments along these lines. In the end, the present study was focused on mental health treatment as usual (TAU) for sexual misconduct (SM).

Public Perception Policy Issues regarding SM Behavior

Sexual misconduct problems in youth vary widely in potential and/or actual harm to others, degree of mutuality and coercion between actors, extent to which they are common in the general population of children and extent to which they are maladaptive for the individual or for victims (Chaffin, 2008; Lenhart, 2009). Youth with SM are often stereotyped as either "sexually abused," "pedophiles" or "future sex offenders," which disregarded the heterogeneity among these youth and leads to legal and placement consequences that do not correspond to the youth's actions (Finkelhor, Ormrod, & Chaffin, 2009; Friedrich, 2007).

In many states, laws have been enacted which criminalize the sexual behavior of minors, including between consenting peers and sometimes between young children, leading to the misapplication of child pornography laws and greater juvenile justice involvement for these youth (*see also* Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2013, Harris et al., 2013 and Lenhart, 2009 for discussion on "sexting" behavior). Common misconceptions regarding the dangerousness and amenability to treatment of youth with sexual misconduct problems has led to contentious public policies and severe legal consequences resulting in tougher sentences for juvenile sex offenders, including out of home placement, application of the Sexual Offender Registration and Notification Act (SORNA) and post incarceration civil commitment (Letourneau & Caldwell, 2013).

Currently, at least 37 states (but, not Hawai'i) have statutory law requiring sex offender registration of some juveniles adjudicated delinquent for qualifying offenses (National Conference of State Legislatures, 2011). If a youth lives in or moves to these jurisdictions they might face housing and employment restrictions, special flagging as a "sex offender" on their driver's license and automatic expulsion from public school (Chaffin, 2008). Studies suggest punitive policies and long-term, restrictive placements of juvenile sexual offenders are harmful to youth, lack empirical support and divert youth away from

evidence-based interventions in the community (Caldwell & Letourneau, 2013; Chaffin, 2008).

Prevalence of SBP and JSO

Prior to discussion on prevalence of SBP and JSO behaviors, it is important to recognize the field of psychology is currently shifting its empirical focus from ordinarily examining the negative risks associated with adolescent sexual activity to producing research which supports the conceptualization of adolescent sexuality as a normal and expected part of development (Tolman & McClelland, 2011). Every developmental life stage shapes a person's gender and sexual identities, sexual attitudes, and sexual behavior (DeLamater & Friedrich, 2002). Over the past decade, a greater number of studies have demonstrated the limitations and costs of societal assumptions of dangerous outcomes and pathology associated with adolescent sexuality (Tolman & McClelland, 2011). Current work in the area of human sexuality uses the term "normative sexuality development" as opposed to "sexual development" to highlight the interaction between physiological and psychological processes focused by definition, on sexual misconduct targeted in a clinical setting,. The author recognized how society views sexuality, particularly adolescent sexuality can lead to normative sexual behaviors being characterized as psychologically abnormal.

A 2008 report published by the Association for the Treatment of Sexual Abusers Task Force on Children with Sexual Behavior Problems noted the lack of population-based statistics available on the prevalence of SBP in children (Chaffin et al., 2008). Combined surveys of the departments of Health, Social Rehabilitation, and Correctional Services suggest prevalence rate of 1.6 to 3.5 sex offenses per year per 1,000 males aged 5-19 in the U.S (Wasserman & Kappel, 1985; Kerr, 1986; Wheeler, 1986). It should be noted that population based statistics on the prevalence of sexual misconduct problems are of questionable validity for a number of reasons: denial of sexual abuse, the secrecy of the

offense, the consequences of disclosure for the victim, and the lack of a standard definition and methodology (Brown, 2013).

The SBP and JSO fields rely on maltreatment and sexual abuse statistics and juvenile sexual arrest records to highlight the significance of sexual misconduct problems (Chaffin et al., 2008). Findings suggest 17 to 25 percent of girls and between 5 percent and 16 percent of boys will experience sexual abuse before age 18 (CDC 2010; Felitti 1998). Forty percent of all child sexual abuse is performed by youth less than 20 years old, with 6 to 12 year-old children being the source of 13-18% of all substantiated child sexual maltreatment perpetrators (Pithers & Gray, 1998). Adolescents are the accused perpetrators in one third of police records of sexual offenses against minors (Finkelhor et al., 2009). The societal costs of addressing SM are high. Costs to taxpayers for residential treatment for one youth can range from $130,000 to over $200,000 per year (Pratt, 2013). Costs for the treatment of sexual assault victims is estimated at over 1 billion annually (Borduin, Schaeffer, & Heiblum, 2009).

Typology and Risk Factors of SBP and JSO

The distinction between SBP and JSO clearly emerges when examining risk factors and potential typologies of SM. Studies suggest there is no distinct profile or clear pattern of demographic, psychological or social factors which define children with SBP (Bonner, Walker and Berliner, 2001; Chaffin, Letourneau & Silvoksy, 2002). Just how much youth with SM differ from the general population is unclear. Children who have been sexually abused engage in more frequent and intrusive sexual behaviors than children who have not been abused (Friedrich, 1993, Putnam, 2003) and a past history of sexual abuse has been found in high percentages of children with SBP (Johnson, 1989). However, many children with SBPs have not been sexually abused, and of those who have, only a small number of sexually abused children (12%) go on to abuse others (NCSBY, 2003a; Bentovim & Williams, 1998).

Hall, Matthews and Pearce (2002) examined the clinical records of sexually abused children, some of which (n=62) had interpersonal sexual behavior problems. Results from hierarchal cluster analysis conducted on this subgroup suggested 3 possible subtypes, all of which were categorized as developmentally problematic: (1) unplanned, interpersonal, (2) planned, noncoercive interpersonal, (3) coercive interpersonal, based on differences in index scores corresponding to child and family history, functioning and treatment response. Findings suggest a child's own sexual abuse experience is important in the development of SBP, but it is the interaction of social modeling and demonstration of sexual behavior by the child, in combination with familial factors that inhibit or potentiate problematic sexual behavior (Hall, Matthews, & Pearce, 2002).

A variety of familial factors contribute to SBP in children including maltreatment, exposure to family violence, substandard parenting practices, over stimulating or inappropriate environmental factors such as access to pornography, inappropriate television, or inappropriate modeling of privacy and sexuality by caregivers (Chaffin et al., 2008; Gil & Shaw, 2014). Children with SBP often experience concurrent behavioral difficulties including poor impulse control, aggressive behaviors, inaccurate perceptions of social stimuli causing peer and academic difficulties, socialization difficulties and stigmatization by adults and peers that can negatively impact healthy self-identity (Bonner, Walker & Berliner, 2001; Silvosky, Niec, Hecht, 2007). These children are also at significant risk of separation from parents and multiple home placements (Bonner et al., 2001).

Researchers have questioned whether and to what extent youth with SBP follow a developmental pathway into sexual offending in adulthood. First, retrospective studies suggest adult sexual offenders begin engaging in sexual misbehavior at an early age (childhood or adolescent onset; Marshall, Barbaree, & Eccles, 1991). Second, it has been found that the early onset of sexually harmful behavior (before the age of 10) represents a behavioral risk marker for a maladaptive trajectory and "general" (sexual and/or non-sexual)

offending and that these youth have higher rates of maltreatment, aggression, hyperactivity, educational difficulties, and mental health problems compared to children with later onset of sexually harmful behavior (McCrory, Hickey, Farmer, & Vizard, 2008). Third, childhood developmental risk factors (i.e. child maltreatment, childhood emotional/behavioral difficulties and insecure attachments to caregivers), which have been shown to be clinical characteristics of families and children with SBP, have also been found to play a contributory role in sexual offending adulthood (Gray, Busconi, Houchens, & Pithers, 1998; Pithers & Gray, 1998; Vizard; 2013). Despite these findings, longitudinal and treatment outcome studies suggest youth with SM pose a low risk for sexual offending in adulthood (Chaffin, 2008). Only 5 to 15 percent of youth with SM will engage in future sexual offenses, with the lower range of risk characterizing youth who received treatment and the higher range characterizing those who did not (Chaffin, 2008).

Empirical efforts to distinguish distinct taxonomic groups for children with SBP have yielded clusters with substantial overlap (Bonner et al., 2001; Chaffin et al., 2006; Pithers et al., 1998). Bonner and colleagues (2001) developed a three group typology model based on clinical presentation of sexual behavior difficulties: (1) sexually inappropriate, (2) sexually intrusive and (3) sexually aggressive children. This model was not supported on standardized assessment ratings, but was found to have empirical merit on clinician ratings of inappropriate and aggressive behavior. Pithers, Gray, Busconi and Houcehens (1998) used a theory driven hierarchal cluster analysis to examine the assumption that three distinct types of children with sexual behavior problems might exist (i.e. nondisordered, highly maltreated and traumatized, and conduct disordered and delinquent). Scores on measures of maltreatment, level of psychopathology, sexual aggressiveness, frequency of sexual and delinquent behavior clustered into five subtypes of clinical presentations: (1) sexually aggressive, (2) nonsymptomatic, (3) highly traumatized, (4) rule breaker and (5) abuse reactive (Pithers et al., 1998). Only the highly traumatized group had proportionate sex representation. The

sexually aggressive and abuse reactive subtypes were disproportionately male and the nonsymptomatic and rule breaker subtypes were disproportionately female (Pithers et al., 1998). Pithers et al. (1998) were not able to find empirical support for the categorization of children (6 to 12 years old) based on sexual behavior problems (with the exception of penetrative and aggressive sexual behaviors). Findings showed subtype membership was predicted by variables measuring oppositional behavior (i.e. CBCL Delinquency Syndrome Scale, Diagnosis of Oppositional Defiant Disorder; Pithers et al., 1998).

Research examining whether JSOs differ from non-sexual offenders on risk factors is mixed. Some findings support the "generalist" delinquency track, indicating that JSOs do not differ from non-sexual offenders on levels of antisocial traits and attitudes, associations with delinquent peers and substance use (Pullman & Seto, 2010). Recidivism data suggests JSOs are significantly more likely to be re-arrested for a non-sexual crime than for a sexual offense later in life (Caldwell, 2002). However, other studies distinguish JSOs from non-sexual offenders on other risk factors including sexual abuse history, atypical sexual development, and early sexualized family factors (modeling of promiscuous or incestuous sexual behavior; Beaugrad, Lussier, & Proulx, 2004). The field of sexual offending continues to examine whether and to what extent JSO is a symptom of general delinquency behavior or whether the diversity among these youth is due to special, specific pathways, which then might require specialized treatment practices.

Multiple, complex typology models have been proposed to explain the onset and maintenance of JSO (Rich, 2011). Extending their theory on adult sexual offending, Knight and Sims-Knight (2003, 2005) propose that early abuse experiences (physical/verbal and sexual) plus personality predispositions combine to produce three latent traits that predict sexual aggression: (a) arrogant, deceitful personality/emotional detachment, (b) impulsivity/antisocial behaviors and (c) sexual preoccupation/hypersexuality). Using data gathered from a computerized interview with 218 juvenile sexual offenders Knight and Sims

Knight (2005) found support for a three pathway model to JSO: (1) a *verbal/physical abuse* pathway, where verbal/physical abuse increases the likelihood of arrogant, deceitful personality/emotional detachment and serves as a model of aggressive behavior, including sexual coercion, (2) a *sexual abuse* pathway, where sexual abuse leads to sexual preoccupation and compulsivity, increasing the risk of sexual coercive behavior and (3) an *early antisocial* behavior pathway involving aggression resulting from past physical and verbal abuse, as well as callousness and lack of emotion, which supports deviant sexual fantasies and sexual coercion. Ward & Siegert (2002) created a five pathway model for adult sexual offending which has been used to conceptualize the etiology of JSO (Rich, 2011). Ward (2003) suggested the following developmental interactions lead to sexually abusive behavior: (1) *Intimacy & Social Skills Deficits*, (2) *Deviant Sexual Scripts Resulting from Previous Sexualization*, (3) *Emotional Dysregulation*, (4) *Antisocial Cognition Distortions* and (5) *Multiple Dysfunctional Mechanisms and Deficits in All Areas* (e.g. a combination of Pathways 1-4).

Research examining the validity of developmental pathways to JSO is limited, but preliminary findings support heterogeneity. Gannon, Terriere and Leader (2012) used cluster analysis to examine psychometric data gathered from a sample of *adult* sexual offenders and found support for three pathways which resemble the Ward and Siegert model: *Intimacy Deficits, Antisocial Cognitions and Multiple Dysfunction*. Results suggested the presence of two additional pathways, one characterized by impulsivity and the other by multiple dysfunction without deficits in intimacy or pervasive, deviant sexual attitudes. In a comprehensive meta-analysis of 59 independent studies comparing male JSOs to non-sex offenders on general delinquency risk factors, Seto and Lalumiere (2010) found empirical support for both "generalist" and "specialist" pathways to SM. Findings suggest sexual abuse history, exposure to sexual violence, other abuse or neglect, social isolation, early exposure to sex/pornography, atypical sexual interests, anxiety, and low self-esteem differentiate JSOs

from non-sexual offenders (Seto & Lalumiere, 2010). However, theories focused on child attachment, nonsexual violence, social incompetence, conventional sexual experience, and low intelligence as factors that differentiate JSO and non-sexual offending did not bear out in the data (Seto & Lalumiere, 2010). The authors found in general, JSOs had less extensive criminal histories, fewer antisocial peers and fewer substance abuse difficulties compared to non-sexual offenders. Seto and Lalumiere (2010) noted their findings somewhat aligned with Knight and Sims-Knight model, but further testing of developmental pathways will need to include measures of social isolation, anxiety, low self-esteem, exposure to sex or pornography, and learning disabilities.

Sex Differences

While boys are more likely to engage in problematic sexual behavior (i.e. school age children with SBPs, about two-thirds were male) this sex difference becomes much greater when focusing on sexual offenses by adolescents (93%). (Finklehor, 2009; NCSBY, 2003a). Furthermore, female JSOs report higher rates of past sexual victimization (95%) as compared to males (69.9%) and have faced greater exposure to sexually inappropriate material and/or adult sexual activity within the family home (Hickey, McCroy, Famerer, & Vizard, 2008). Compared to male JSOs, girls are more likely to be younger, involved in multiple incidents with multiple victims, have victims younger than age 11, have male victims and offend in conjunction with others including adults (Finklehor, 2009).

The disproportionate sex rates of sexual victimization suggest developmental pathway distinctions between male and female JSOs. It has been hypothesized that intimacy and sexual arousal deficits (arising from childhood sexual abuse) may be motivating factors for JSO in females and that the psychological distress resulting from early traumatic sexualization may manifest as maladaptive personality traits, disrupted social functioning and impaired affect regulation in female adult sexual offenders (Christopher, Lutz-Zois, & Reinhardt, 2007; McCrory et al., 2008).

Treatment Modalities

The NCSBY recommends that youth with sexual behavior problems be treated on an outpatient basis, while living at home and "inpatient treatment should be reserved, for youth with other psychiatric disorders, experiencing unusually severe, highly aggressive sexual behavior, which recurs despite appropriate outpatient treatment and close supervision." (NCBSY, 2003a, p.2).

Treatment Outcomes for Youth with SM

Treatment modalities directed toward youth with SBP include expressive therapy; relapse prevention based programming, gradual exposure based and/or psycho-educational, structure based CBT, nonspecific supportive therapies and in some cases, residential care (Chaffin 2008a; Chaffin et al. 2008). Treatment targeting SBPs are often a downward extension from JSO models of treatment, which in turn are based on adult sexual offending treatment models and may include individual, group or family work (Amand, Bard, & Silvosky, 2008; Rich, 2011). Group treatment has been the most common modality of tested SBP-focused treatments (Armand et. al, 2008).

A larger number of treatment modalities have been directed towards youth with JSO difficulties including psycho-educational, expressive, experiential and non-verbal therapies, pharmacological treatment, behavioral therapy and integrative residential treatments (Rich, 2011). Only a limited number of residential based programs publish treatment descriptions, but research suggests that most residential programs use a holistic, multimodal treatment approach that incorporates cognitive behavioral interventions (Brown, 2013; Jones, Chancey, Lowe, & Risler; 2010; Rich, 2011). Specialized, residential juvenile sexual offender programs have been criticized for delivering a high dosage of treatment, over a long period of time, in a restrictive and intensive setting despite empirical evidence that short term, community based treatments can be effective for youth with SBP and JSO (Chaffin, 2008). Some researchers have found length of stay in a juvenile offender residential care is

positively associated with treatment outcome (Quinsey, Skilling, Lalumiere, & Craig, 2004), while others have not (Jones et al., 2010).

Only a handful of studies have examined the effectiveness of treatment modalities for SBP and/or JSO. Outcome research on interventions can be sorted into three types: (a) efficacy trials or highly controlled research trials resulting in support for evidence based treatments (EBTs), (b) effectiveness trials where EBT protocols are implemented with patients in community-based care settings and (c) studies of "treatment as usual" (TAU).

There are a small number of studies examining treatment efficacy and outcome for children with SBP (Bonner et al., 2001, Pithers et al., 1998). Much more research has been conducted on treatment outcome for sexually abused children, where SBP behaviors were the secondary target (Armand et al., 2008). Taken together, these studies suggest short-term, structured CBT approaches, which incorporate caregiver involvement might be better for treating SBP over other modalities and that greater treatment effects might be seen in subsamples of children with SBP who have a past history of sexual abuse (Armand, Bard, & Silvosky, 2008).

Only two randomized trials have been conducted specifically focusing on children with SBP. Bonner et al. (2001) found short term SBP reduction occurred regardless of whether a child was randomized to a play therapy or short-term structured CBT. At 10 year follow up, children who received short term CBT experienced lower rates of future sexual offending compared to those randomized to play therapy (2% vs. 10%; (Carpentier, Silovsky, & Chaffin, 2006). Pithers et al. (1998) compared two CBT based treatments (expressive therapy and relapse prevention programing) and found children in both treatment conditions had equal improvement in SBP, but children who experienced traumatic stress had greater SBP reduction in the relapse prevention treatment than in the expressive therapy condition. A follow up study on this sample found both conditions experienced similar reductions in SBPs

at follow up and did not significantly differ from each other in treatment gains over time (Chaffin et al. 2008 reporting Bonner & Fahey, 1998).

Results from a treatment effectiveness study using a wait-list control group design to examine SBP reduction in preschool children found that SBP might improve over time (possibly as caregivers gain access to family welfare services), but short-term CBT provided the most rapid improvement for children with high frequency SBP (Silvosky, Niec & Hecht, 2007). In a randomized control trial testing treatment effectiveness for sexually abused children, gradual exposure-based CBT was found to be more effective than play therapy in reducing SBP (Cohen & Mannarino, 1997).

Armand, Bard and Silvosky's (2008) meta-analysis of 11 treatment efficacy and effectiveness studies addressing SBP as primary (n=4) or secondary treatment target (after sexual abuse/trauma related symptoms; n=7) found that incorporating parent and behavior management skills into therapeutic practices predicted SBP reduction. Family interventions focused on psycho-education about sexual behavior, sex education and sex abuse prevention, and child interventions focused on self-control were also shown to significantly predict SBP reduction (Armand et al., 2008).

Similar to work in the field of SBP, there is only a limited amount of scientifically rigorous research conducted on the treatment of JSO. Across three randomized control trials, Multisystemic Therapy (MST) was found to be more effective than treatment as usual for reducing JSO behavior, delinquency, substance use, externalizing symptoms, and out of home placements (Borduin, Schaeffer, Heiblum, 2009; Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998; Letoruneau et al. 2009). All treatment gains, except reduction in substance use were maintained at 2-year follow up (Letourneau et al., 2013). Dopp, Borduin, Rothman & Letourneau (2017) conducted a meta-analysis of ten treatment studies focused on youth sexual offending behavior and determined Multisystemic Therapy can be categorized as a "Level 2: Probably Efficacious treatment" under the current evidence-based treatment

classification criteria (Southam-Gerow & Prinstein, 2014). Findings from follow up studies suggest that with effective MST treatment, youth with SBP or JSO do not differ from similarly treated non-sexual offending youth in future rates of sexual or person offenses (Letourneau, Chapman, & Schoenwald, 2008).

To the author's knowledge, no randomized clinical control trials have been conducted examining the effectiveness of residential juvenile sexual offender treatment. Taken together, results from both SBP and JSO treatment effectiveness studies suggest CBT approaches coupled with caregiver involvement or interventions focused on family cohesion and/or behavior management seem to be effective interventions for SM problems. Although there seem to be common therapeutic practice elements incorporated into proposed treatments for JSO, no one to date has done a systematic examination of such elements nor looked at how such elements are associated with client outcomes (as done by Armand et al., 2008 for SBPs).

Treatment as Usual for SBP and JSO

Statistics on treatment rates of SBP are scarce. Within Hawai‘i's system of care (CAMHD), it is uncommon, but not rare, for children to experience difficulties with sexual misconduct. Across a two-year period, 4.9% of youth had "sexual misconduct" as a target at least once during their course of treatment (The State of Hawai‘i Department of Health, CAMHD, 2016). Approximately two thirds of these youth were boys; this ratio matches the proportions of males and females seen in the SBP literature and suggests the CAMHD sample includes a fair number of children with SBP problems (CAMHD, 2013).

There is a scarcity of information on usual care of SBP in children. Usual care for JSO youth is often administered under the purview of juvenile court systems and includes individual counseling targeting acceptance of responsibility, antisocial cognitions, victim awareness and empathy, and relapse prevention (Pullman & Seto, 2012). There is a general consensus that "something works" for treating youth with JSO, but uncertainty about exactly

"what works" (Brown, 2013). A meta-analytic review of 10 treatment studies (with and without control groups) of male juvenile sexual offenders suggests well-organized treatment approaches of all types, delivered by trained and supervised staff can reduce JSO problems in youth (Walker, McGovern, Poey, & Otis, 2005). Studies using cognitive behavioral interventions were found to be the most effective (Walker et al., 2005). Classic psychodynamic therapy or non-directive person centered therapies, which emphasize therapeutic rapport as the primary goal, gaining insight, fostering positive self-regard, self-actualization through self-discovery and catharsis, and medication alone have been found to be ineffective (Brown, 2013).

Caregivers of youth with JSO problems may also have unique emotional and behavioral concerns arising from the occurrence of the offense, the impact of the legal system, their personal feelings about themselves and society's response to the family, which need to be addressed in the development of effective treatments (Pierce, 2011). Interviews with treatment providers who work with juvenile sexual offenders suggest clinicians' perceive a youth's motivation to change and belief in the efficacy of treatment, strong social support, and positive attachments as strong indicators of treatment response (Kimonis, Fanniff, Borum, & Elliott, 2010). Deviant sexual interest/attitudes and unsupportive parenting were believed to significantly reduce a youth's amenability to treatment (Kimonis et al., 2010).

Current Research on Usual Care

Though much remains to be known about the clinical presentation and treatment of youth with SM in TAU, it is well accepted that youth, families and therapists in usual care differ significantly from randomized control and treatment efficacy samples (Baker-Ericzén, Hurlburt, Brookman-Frazee, Jenkins, & Hough, 2010; Southam-Gerow, Weisz, & Kendall, 2003). Youth in TAU are much more likely to be ethnically diverse, have significant comorbidity, greater symptom severity, come from low SES and single parent households,

experience longer treatment episodes and have higher drop-out rates in comparison to research populations (Baker-Ericzén et al. 2010; Southam-Gerow et al., 2003; Weisz, Donenberg, Han, & Weiss, 1995). TAU providers are often unlicensed, masters level practitioners, who value the use of a variety of therapeutic practices (including evidence based practices), but receive limited clinical supervision on effective interventions (Accurso, Taylor, & Garland, 2011; Southam-Gerow et al., 2003).

A greater examination of what practices are currently being administered and what targets are being addressed in TAU is needed to narrow the gap between research and practice and to understand what works for whom under what conditions. Chorpita, Daleiden and Weisz (2005) used a *Distillation Matching Model* (DMM) to conceptualize evidence-based treatment (EBT) manuals as individual strategies (defined as Practice Elements; PEs) to allow for technique identification and accumulation of common practice information across different types of interventions. This approach to organizing the evidence base allows PEs to be matched to client characteristics, service setting and other clinical variables (e.g. diagnosis or other presenting problems; Chorpita, Daleiden & Weisz, 2005).

Similar to the way EBTs are composed of several common PEs, mental health disorders consist of specific symptoms (plus impairment). These symptoms and non-symptom issues as well (e.g. treatment engagement) can become intervention targets. For example, a youth with conduct disorder might have treatment targets such as *Willful Misconduct/Delinquency* and *School Refusal/Truancy*. Treatment targets can encompass a diverse number of clinical issues not directly associated with specific disorders (e.g. sexual misconduct), including therapeutic alliance components and non-clinical concerns (e.g. shyness). Therapist-identified treatment targets allow providers to highlight a diverse spectrum of problems individualized to youth, providing a more nuanced view of clinical practice beyond diagnostic categorization.

A significant barrier to bridging the gap between evidence based research and

practice is a general lack of clinician reporting of therapeutic procedures used in TAU (Weisz, Jensen-Doss, & Hawley, 2006). In the CAMHD system providers are required to indicate youth's treatment targets, service format and setting, practice elements and clinical progress ratings on a monthly basis. Despite the absence of research on treatment and practice profiles of youth with SM in TAU, a clearer picture has emerged on the selection of intervention targets and therapeutic practices, including for youth with disruptive behavior problems and associated comorbidities.

Current Research on Practice Elements in TAU

A factor analysis conducted on therapist reports of practices in intensive in home treatment points to three major categories: (1) *behavioral interventions*, (2) *coping and self-control interventions* and (3) *family interventions* (Orimoto, Higa-McMillan, Mueller, & Daleiden, 2012). Use of these interventions has been shown to vary depending on therapists and client factors (Orimoto et al. 2012). Licensed therapists report a higher use of coping and self-control PEs, whereas unlicensed therapists and paraprofessionals report a greater use of behavior management techniques (Orimoto et al. 2012). Younger clients and youth with attentional problems were more likely to receive behavior management PEs, whereas youth with more severe impairment received more behavior management and family intervention PEs (Orimoto et al. 2012). Therapists also report using a greater breadth (more distinct practices over time) and higher dosage of practices (more practices per month) for youth with disruptive behavior problems and multimorbidity (more than 2 diagnoses) (Orimoto et al. 2014). The results from Orimoto et al. (2014) work suggest that therapists might be responding to the complexity of their client by using a "shotgun" or "kitchen sink" approach to practice selection for youth with three or more diagnoses. It remains unclear if therapists are using this diverse practice approach to help improve multiple areas of functioning for a client or out of desperation when confronted with multiple impairments (Orimoto et al., 2014). Whether therapists treating youth with SM problems will take a similarly broad

approach and or whether they will emphasize one approach (e.g. family) over another (e.g. behavioral) is unknown.

Therapist use of PEs derived from the evidence base (PDEs) have been found to predict improved treatment outcome. The percent of practice elements used that were derived from the evidence base (PDE) for disruptive behavior predicted average treatment target improvement and partially mediated the superior treatment response from MST compared to intensive-in home (Denenny & Mueller, 2012). Similarly, families of children with disruptive behavior problems who received more thorough and extensive delivery of PDEs in treatment showed a greater reduction in parental discipline (Garland et al., 2014). However, increased clinician focus and use of treatment time on parent-directed practices not common to the evidence base predicted less improvement in family functioning (Garland et al., 2014). Greater therapist use of PDEs for disruptive behavior have also been found to lead to greater rates of change in average disruptive behavior ratings for youth 13 and older (Orimoto, 2014). Taken together, these studies suggest that practice elements derived from the evidence base, (including caregiver-involvement PDEs), might be more effective in addressing SM than other caregiver involvement practice elements (Garland, 2014; Denenny & Mueller, 2011).

Current Research on Treatment Targets in Usual Care

Much of the evidence-based practice research literature has focused on what therapists do (or should do) in treatment rather than what they target in treatment. TAU research shows therapists tend to prioritize externalizing problems during treatment, even after internalizing problems have been identified via formal diagnosis (Millette-Winfree, Mueller, Hee, & Runland, (in press)). Therapists also commonly identify targets (over 40%) that are unrelated to diagnoses, which suggests therapists try to balance the diverse needs of TAU clients (Love et al., 2011). Clinician selection of TTs has been found to organize into five related factors focused on: (1) *disinhibition,* (2) *unlawful behavior,* (3) *overcoming*

withdrawal, (4) *distress coping*, and (5) *biodevelopmental issues* (Love, Orimoto, Powell & Mueller, 2011). Endorsement of factors was found to occur in a systematic and meaningful pattern and vary as function of youth age and sex (Love et al., 2011).

Practice Elements and Treatment Targets for Sexual Misconduct Youth

Despite advancements in understanding TAU for youth with disruptive behavior problems, there has been no research on the number and type of practices selected by UC therapists when treating youth with SM problems. To improve the dissemination and implementation of interventions we must understand what is currently being done.

It is important to examine treatment and practice profiles of youth with SM because it has been suggested these youths might need individualized treatment interventions depending on the etiology of their behavior (Pullman & Seto, 2012). Generalist offenders might benefit from receiving PEs that match MST treatment components and target family, positive peer involvement, emotional and behavioral functioning and environmental risk factors, whereas specialist offenders might receive PEs focused on managing atypical sexual interests and improving sexual self-regulation in addition to a general delinquency treatment approach (Pullman & Seto, 2012). Suitable treatment targets for SM might include addressing childhood sexual victimization (e.g. traumatic stress), relationship functioning (e.g. positive family functioning and positive peer interaction), atypical sexual arousal and self-regulation problems (e.g. self-management/self-control; Seto & Pullman, 2012). Depression and anxiety might also need to be addressed because these concerns have been linked to problematic sexual behavior (Seto & Lalumiere, 2010). Similarly, given sex differences in the risk factors and developmental pathways to SM, it is important to examine whether treatments differ across boys and girls and, if so, in what ways.

Youth with SM face a variety of treatment options and service settings and might have different treatment patterns across service settings. For instance, youth with severe problems are more likely to be placed in more restrictive settings (out of home). It would be

useful to examine to what extent TAU maps on to different practices that have been suggested for the treatment of SM (e.g. caregiver involvement PEs). If such practice patterns are important, it will be of value to see to what extent treatment recommendations are being addressed and whether these elements are occurring across levels of care. If TAU already reflects the recommended practices by experts (or the EBS literature) then dissemination and implementation efforts certainly should look different than what might be expected.

Prior TAU work provides a template to assess whether a range of practices or a more narrowly focused practice approach is being used for youth with SM and whether therapists are providing certain treatments over others (i.e. family interventions) to these youth (Orimoto et al., 2012; Orimoto et al. 2014). If the presence of SM as a treatment target affects practice element selection in a similar way multi-morbidity has (e.g. both might increase the perceived complexity or intractability of cases) then a practice pattern characterized by more and more different practices might occur. Given youth with SM might be at particular risk of stigmatization and punitive public polices in comparison to youth with other mental health needs, it is important to know whether and to what extent youth with SM are treated differently compared to youth without SM. Finally, the opportunity to examine associated TTs provides a unique view into the conceptualization and treatment of SM by allowing greater description of what other treatment targets are commonly associated with SM treatment targeting.

The Current Study

Sexual misconduct is not a diagnostic category within itself and there is not yet a "best support" evidence based treatment designed to target sexual misconduct difficulties. This study was exploratory in nature and findings provided greater insight into what emotional and behavioral health concerns therapists target for youth with SM and what interventions they endorse to address these concerns in the absence of a clear "right choice" of treatment.

The overall goal of the three analyses were to: (1) describe treatment as usual for youth with SM in a public state-wide child and adolescent mental health system, including demographic and clinical characteristics of these youth, levels of care provided, common treatment patterns (practices and associated targets) overall, (2) examine whether a matched sample of youth with SM targeted (and their treatment) differ in comparison to youth without SM at the intensive in-home level of care, and (3) examine whether treatment patterns for youth with SM cluster into groups in a meaningful way (accounting for variance in treatment patterns) and whether such clusters reflect assumed pathways to sexual misconduct behavior described in the developmental psychopathology literature. Sexual misconduct is not a diagnostic category within itself and there is not as yet a “best support” evidence based treatment designed to target sexual misconduct difficulties.

Hypotheses

1. Across all levels of care, youth with SM will experience greater impairment, more co-occurring disorders, longer treatment episodes and will be more likely to be placed in an out of home level of care in comparison to youth without SM.
2. Youth with SM will have a greater frequency (dosage) and a greater diversity of TTs and PEs compared to youth without SM, even after controlling for other group differences that predict treatment profiles. Also, it is predicted that these youth will receive more family and behavioral interventions and treatment targets that are focused on disinhibition, emotional distress, coping and self-control and societal rules evasion in comparison to youth without SM.
3. Treatment patterns for youth with SM will cluster into groups in a meaningful way (accounting for variance in treatment patterns). It is predicted one cluster will emerge that represents a generalist practice profile with a high total endorsement of family and behavioral interventions and a treatment target profile addressing disinhibition and societal rules evasion (e.g. aggression, impulsivity, delinquency/willful misconduct,

truancy). It is predicted the specialist practice profile will represent a cluster interventions more focused on coping and self-control and with targets more focused on social engagement deficits and distress coping.

Method

Source of the Dataset

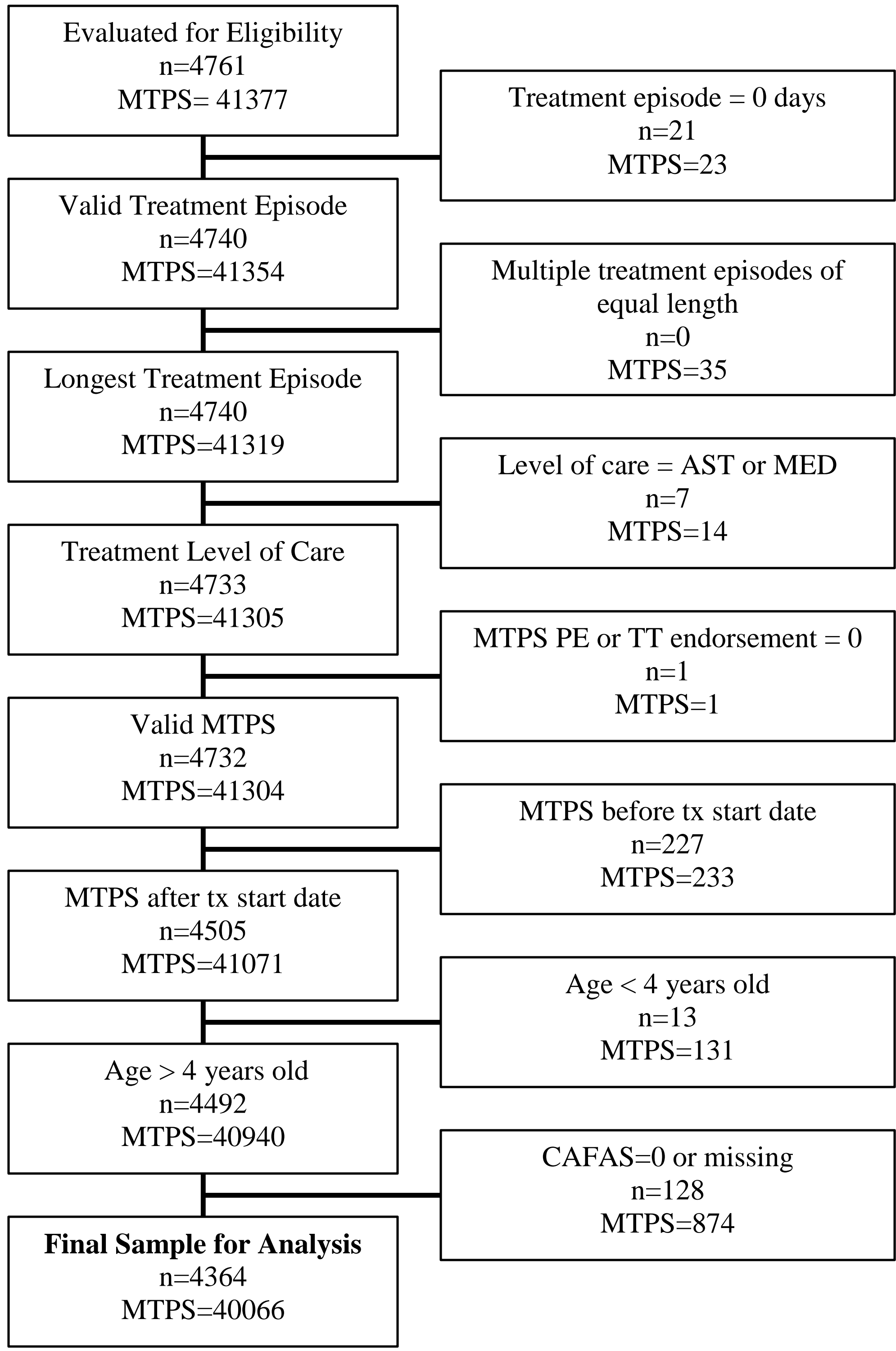
Hawai‘i’s Child and Adolescent Mental Health Division (CAMHD) is a comprehensive state-funded mental health system, which procures or provides services for 2,209 youth each year (CAMHD, 2016). Youth referred to CAMHD must have significant emotional or behavioral difficulties as determined by a comprehensive mental health evaluation, significant functional impairment, and/or meet certain programmatic criteria (e.g., involvement in juvenile justice, Quest insurance, or through a federal grant) to be eligible for services. Disruptive behavior disorders (26.1%), attentional disorders (19.5%) and mood disorders (15.4%) are the most common primary diagnoses in the CAMHD system (CAMHD, 2016). Intensive home-based (including intensive in-home, Multisystemic Therapy and Family Functional Therapy) and out of home services (including residential substance abuse and juvenile sex offender treatment) are provided through contracts with local and national service providers.

The CAMHD Research and Evaluation Team (RET) provided data used for the present study. RET is a partnership between CAMHD and the Psychology Department at the University of Hawai‘i at Mānoa (UH), which serves to advance behavioral health research and program evaluation in order to support the use of best practices in Hawaii’s system of care. Data is routinely provided by clinicians providing services for CAMHD and entered into an electronic health record database, the Child and Adolescent Mental Health Management Information System (CAMHMIS) following standard operating procedures. The University of Hawaii Psychology Department was provided with a delimited Microsoft Access dataset generated from the CAMHMIS system. Data used in the present study was extracted from this dataset.

Sample Characteristics

Youth. At the beginning of data capture for this study, all cases of youth who began receiving CAMHD procured treatment services between July 1, 2001 and May 29, 2012 were reviewed (n=4761, see Figure 1). Cases in which the youth was: younger than 4 years old, had a MTPS date which occurred prior to the episode start date, had a MTPS with zero TTs and/or PEs endorsed, or had a score of zero, or a missing score on the measure of impairment (i.e., CAFAS, see Measures below) were removed. Youth whose treatment episodes were comprised of Acute Stabilization Treatment (AST) or medication management (MED) were also excluded. Youth frequently had several treatment episodes (defined as multiple re-entries into CAMHD or movement across levels of care) within the CAMHD system (M=3.69, SD=4.43). For the present study, only one episode per youth was selected for analysis. When SM was endorsed as a TT on the youth's MTPS at least one time within the youth's treatment history, the longest episode that included SM as a treatment target was selected (range=23 to 2191 days). For all other youth, the longest treatment episode was retained for analysis. Six youth had two "longest" episodes of equal length; one was selected at random. The final total sample for analysis was comprised of 4364 youth, of which 479 youth (11%) were identified as having SM targeted one or more times during the selected treatment episode. The mean number of MTPS completed per treatment episode was 9 (SD=7.8). Demographic and clinical comparisons between youth with and without SM are provided in the results section.

Figure 1. *Flow Diagram of sample identification among youth receiving CAMHD treatment services*



Measures

Monthly Treatment and Progress Summary (MTPS; CAMHD, 2005, 2008). Two versions of the MTPS (CAMHD, 2008 and CAMHD, 2005) were used to measure practice and treatment profiles. The MTPS is a therapist-report measure designed to track service formats and settings, treatment targets, clinical progress ratings, intervention strategies, and client medication use on a monthly basis at the individual client level (see Appendices A and B for a copy of the MTPS form and Appendix C for the codebook, respectively). The MTPS treatment targets and intervention strategies were identified and coded through a comprehensive review of the evidence based literature for the treatment of youth with mental health problems (see Chorpita, Daleiden, & Weisz, 2005). The MTPS was implemented in the CAMHD system in 2005. Since July 1, 2006, all service providers have regularly completed an MTPS every month for each treatment client in order to receive reimbursement for services (Chorpita & Daleiden, 2009). Data is collected statewide and entered into the Child and Adolescent Mental Health Management Information System (CAMHMIS) through the established operating procedures of Hawai‘i's seven regional Family Guidance Centers.

For six of the ten years of CAMHD data represented in the sample dataset, therapists were required to complete the MTPS, which lessens the likelihood of missing variables. Two versions of the MTPS are included in the data set.

Treatment Targets. On either version of the MTPS (CAMHD, 2005 and CAMHD, 2008), therapists were allowed to indicate up to 10 TTs addressed during the reported month. The 2005 version allowed therapists to select 10 TTs from a list of 48 empirically-derived therapeutic objectives, plus two write in options labeled "Other." Five additional treatment targets were added to the MTPS when it was modified in 2008.

While there are 53 treatment targets from which to choose on the most recent version of the MTPS (published in 2008), another seven targets had been included on a previous

version of the MTPS but eventually removed due to low endorsement rates (Chorpita & Daleiden, 2009). The current study addressed this concern by including all endorsed targets in the current data analysis while noting those targets that had been removed from the most recent version of the MTPS. A total of 54 targets were represented in the archival data set for this study (which, includes the five additional treatment targets represented in the 2008 MTPS and the "Other" target). The sexual misconduct target was not included in any calculations involving treatment target dosage or diversity.

Studies of the MTPS offer support for the reliability and validity of treatment targets. TT selection has been found to be significantly related to youth's diagnosis at intake providing preliminary support for the convergent validity of the MTPS treatment targets (Daleiden et al, 2004; Milette-Winfree, Mueller, Hee, & Runland, in press). Treatment targets have also been found to show reasonable factor validity (Love, Okado, Orimoto & Mueller, 2016).

Practice Elements (PEs). On either version of the MTPS (CAMHD, 2005 and CAMHD, 2008), therapists also indicated an unconstrained number of PEs (from a list of 63 intervention strategies on the 2008 version and from a list of 55 intervention strategies on the 2005 version) they used during that month to address treatment targets. Therapists were allowed to add interventions strategies they used that are not listed by completing up to three write in options labeled "Other." When the MTPS was revised in 2008, one PE was removed (Directed Play) and seven additional PEs were added. PEs on the MTPS have demonstrated good reliability and validity (Chorpita et al., 2005; Daleiden, Lee, & Tolman, 2004). Daleiden, Lee, and Tolman (2004) found average kappa coefficients for the one-month stability estimates of PE's were in the good range. PE's on the MTPS were found to be relatively stable from month-to-month, providing a moderate degree of reliability for the measurement of treatment practices (Daleiden, Lee, & Tolman, 2004). Borntrager et al. (2013) compared coder and clinician reported use of PE's and found fair validity of

therapeutic practice reports, but noted clinicians were more likely to over-report than underreport their use of PEs.

In exploratory factor analyses, PEs have been found to organize roughly into three factors, which reflect patterns of treatment techniques applied in clinical practice (*behavioral management*, 15 PEs; *cognitive/self-coping*, 19 PEs; *family interventions*, 13 PEs; Orimoto et al., 2012).

Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1994)

The total score on the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1991) was used to measure functional impairment at, or as near as possible, to time of entry into the selected treatment episodes. The CAFAS yielded a score ranging between 0 and 240 (with a higher score indicating greater impairment) based on eight scales used to measure the child's functioning: *Role Performance Home, Role Performance School/Work*, *Role Performance Community* (i.e., how effectively the youth fulfills societal roles at home, in school, and in the community), *Thinking* (i.e., ability of youth to use rational thought processes), *Behavior Toward Others/Self* (i.e., appropriateness of youth's daily behavior); *Moods/Emotions* (i.e., modulation of the youth's emotional life), *Moods/Self-Harm* (i.e., degree of non-accidental self-harm or self-destructive behavior) and *Substance Use* (i.e., youth's substance use and the extent to which it is inappropriate and disruptive) (Hodges & Wong, 1996). For each scale, the rater determined the level which best describes the youth's most severe level of dysfunction during a specified period (severe impairment = 30, moderate impairment = 20, significant problems or distress = 10, minimal or no impairment = 0). Hodges and Wong (1996) found that the CAFAS demonstrates high inter-rater reliability with lay raters and front-line staff for both total CAFAS scores (0.92 to 0.96) and individual scale scores (0.73 to 0.99), and was a useful indication of impaired functioning at intake. They found that the CAFAS had significant predictive validity across all spheres of functioning; specifically, youth with high CAFAS total scores were more likely to have poor social

relationships, difficulties in school and involvement with the juvenile justice system. Significant concurrent validity was also demonstrated between the CAFAS and the total score on the CBCL (Hodges & Wong, 1996). Nakamura et al. (2007) found improvement on TT's (as measured by progress ratings) on the MTPS was significantly associated with positive changes in CAFAS score.

Constructed Dependent Variables

All constructed scores were modeled after the methodology in Orimoto et al., 2014. Eight proportion score measures were constructed from MTPS data to evaluate study questions: four related to treatment target endorsement, and four related to PE endorsement. Each set of four constructed proportion scores were designed to measure similar constructs across TTs and PEs, respectively, during the treatment episode. A brief description of each constructed score is given in the matrix below. A detailed description of the measure construction is provided in the subsequent text.

	Treatment Target	**Practice Element**
Total Diversity Score *Range = 0 to 1*	Total number of unique TTs endorsed/Total TTs on MTPS (*n*=54)	Total number of unique PEs endorsed/ Total PEs on MTPS (*n*=63)
Factor Diversity Score *Range = 0 to 1*	Total number of unique TTs endorsed within each of five TT factors/Total TTs on the respective factor	Total number of unique TTs endorsed within each of three PE factors/Total PEs on the respective factor
Total Dosage Score *Range = 0 to 10 for TT** *Range = 0 to 63 for PE*	Sum of all TT endorsement across all MTPS (same TT could be counted >1 time)/Total MTPS in youth's treatment episode	Sum of all PE endorsement across all MTPS (same PE may be counted >1 time)/Total MTPS in youth's treatment episode
Factor Dosage Score *Range varies by factor*	Sum of all TT endorsement across all MTPS, within each of five TT factors (same TT may be counted >1 time)/Total TT on the respective factor	Sum of all PE endorsement across all MTPS, within each of three PE factors (same PE may be counted >1 time)/Total PE on the respective factor

*MTPS instructions allow therapists to endorse no more than 10 TTs per month

Treatment Target Total Diversity Score measured the proportion of unique treatment targets that had been used at least once over the course of a participant's treatment episode (overall). The total TT diversity score was calculated by summing all the unique TTs selected over a youth's treatment episode, and dividing this value by the total number of unique TTs on the MTPS (out of 54) to create a proportion score that ranged from 0 to 1.

Treatment Target Diversity Factor Scores were created for each of the five TT factors, and measured the proportion of unique treatment targets within each of five TT factors used at least once used over the course of a participant's treatment episode. This score was calculated by summing the number of unique TTs that had been used over the course of each participants treatment episode for each factor and dividing this value by the total number of TTs on those factors (e.g. 6 TTs for factor 1 or *Disinhibition*, 4 TTs for factor 2 *Societal Rules Evasion*, 5 TTs for factor 3 or *Social Engagement Deficits,* 5 TTs for factor 4 or *Emotional distress*, 4 TTs for factor 5 or *Management of Biodevelopmental issues*) to create proportion scores (range = 0-1).

Total Treatment Target Dosage Score measured the average number of targets selected per month. The total treatment target dosage score was calculated by summing all the TTs selected for each MTPS completed over a youth's treatment episode and dividing this value by the total number of MTPSs to create a dosage score that ranged from 0 to 10 (as 10 is the maximum number of treatment targets therapists are permitted to endorse on the MTPS).

Treatment Target Dosage Factor Scores measured the average number of TTs selected per month and roughly indicated how many unique TTs are addressed each month (within each TT factor). The treatment target dosage factor scores were calculated by summing the total number of times that any TT within a factor was endorsed, and dividing the values by the total number of MTPSs to create a dosage score for each of the five factors (e.g. (1*) Disinhibition*; 6 TTs, (2) *Societal Rules Evasion*; 4 TTs, (3) *Social Engagement*

Deficits; 5 TTs, (4) *Emotional Distress*; 5 TTs and (5) *Management of Biodevelopmental Issues*; 4 TTs). The dosage scores ranged from 0 to 6 for dosage factor 1, 0-4 for dosage factor 2, 0-5 for dosage factor 3, 0-5 for dosage factor 4 and 0-4 for dosage factor 5.

Total Practice Element Diversity Score measured the proportion of unique PEs that had been used at least once over the course of a participant's treatment episode (overall). The total PE diversity score was calculated by summing all the unique PEs endorsed at least once over a youth's treatment episode, and dividing this value by the total number of unique PEs on the MTPS (63) to create a proportion score that ranged from 0 to 1 (Orimoto et al. 2014).

Practice Element Diversity Factor Scores measured the proportion of unique PEs that had been used at least once over the course of a participant's treatment episode (within each factor). These variables were calculated by summing the number of unique PEs that had been used over the course of each participants treatment episode for each factor and dividing this value by the total number of PEs on those factors (15 PEs for factor 1 or *Behavioral Management*, 19 PEs for factor 2 or *Coping and Self-Control* and 13 PEs for factor 3 or *Family Interventions*) to create proportion scores (range = 0-1).

Total Practice Element Dosage Score measured the average number of PEs applied per month and roughly indicated how may total practices were attempted per month overall (Orimoto et. al. 2014). The total PE dosage score was calculated by summing all the PEs selected for each MTPS completed over a youth's treatment episode, and dividing this value by the total number of MTPSs completed to create a dosage score that ranged from 0 to 63 (Orimoto et al. 2014).

Practice Element Dosage Factor Scores measured the average number of PEs applied per month and roughly indicated how many total practices are attempted per month (within each PE factor) (Orimoto et al., 2014). The PE dosage factor scores were calculated by summing the total number of times that any PE was endorsed within a factor, and dividing the values by the total number of MTPSs to create a proportion score for each of the three

factors (15 PEs for factor 1 or *Behavior Management*, 19 PEs for factor 2 or *Coping and Self-Control* and 13 PEs for factor 3 or *Family Interventions* (Orimoto et al., 2012). The dosage scores ranged from 0 to 15 for dosage factor 1, 0-19 for dosage factor 2 and 0-13 for dosage factor 3 (Orimoto et al., 2014).

Frequency of PEs and TTs across treatment episodes for youth with SM who received treatment at all levels of care were reported in Appendices G and H. The individual treatment targets and practice elements which loaded onto each factor were reported in Appendices O and P.

Level of Care: The level of care for each participant was identified and collapsed into a dichotomized variable indicated in-home or out-of-home service. The in-home placement category included the following services available to youth with SM: generic intensive-in-home services, Multisystemic Therapy, and Family Functional Therapy (CAMHD, 2016). The out of home placement category included the following services available to youth with SM: out-of-state, hospital residential, community high-risk residential (i.e. juvenile sexual offender treatment), community residential, Multidimensional Treatment Foster Care, and therapeutic foster care and crisis stabilization services (CAMHD, 2016).

Juvenile Sexual Offender Residential Treatment: Youth who received treatment at a specialized juvenile sexual offender residential treatment facility in the CAMHD system served as the sample for the third and final analysis of this study. This facility is considered a high security, restrictive residential setting aimed at providing treatment for high risk youth. The program uses a variety of treatment approaches and also incorporates the *Pathways* model (Kahn, 1996). The *Pathways* model is not a treatment program, but a tool which is incorporated within milieu therapy (Kahn, 1996). The model is designed for youth ages 12 to 18 and is conducted over 12 to 24 month period (Kahn, 1996). The model aims to increase the following behaviors: adaptive social skills, overall responsibility in daily life, sensitivity to others, honesty about sexual feelings and behavior, self-esteem and social relationships.

The *Pathways* model uses the following interventions: psychoeducation, cognitive restructuring, victim awareness training, CBT training, arousal reconditioning methods, group therapy and relapse prevention techniques (Kahn, 1996). It has not yet received enough positive scientific findings to achieve good empirical support for treating JSO difficulties (CEBC: California Evidenced Based Clearinghouse for Child Welfare, 2011).

Analytic Approach

Data was examined using SPSS version 24.00 and R plus 3.3. The first goal of the current study was to examine the demographic, clinical and treatment profiles of all cases of youth with SM as a target at any point in time in their longest CAMHD treatment episode (n=479). Standard descriptive data for the youth population were reported with a particular look at the distribution qualities across levels of care to a get a preliminary understanding about the level of heterogeneity across SM youth (episodes). T-test and chi-square analyses were run among the study variables to examine whether there were significant associations between specific demographic and clinical covariates and the endorsement of sexual misconduct as a treatment target. Demographic and clinical comparisons between the SM and non-SM group are provided in the results section.

To control for heterogeneity of youth with SM across all levels of care, the need for coarsened exact matching (CEM) was evaluated (CEM; Iacus, King, Porro, 2011). Coarsened Exact Matching is part of the “Monotonic Imbalance Bounding” generalized class of matching methods, which does not require assumptions about the data generation process (beyond the usual ignorability assumptions) and has been shown to significantly reduce imbalance, model dependence, estimation error, bias, variance, mean square error, and other criteria in comparison to commonly used “equal percent bias reducing” methods, such as propensity score matching (PSM) (Iacus, King, Porro & Katz, 2012). A matched sample of youth with and without SM who received treatment at the intensive in home level of care was created after balancing specified covariates: age, gender, total number of diagnoses,

impairment and length of treatment. Treatment at the intensive in-home level was selected because it generally serves as the first of line for intervention for SM, is the most common level of care in this system, is most similar to the majority of studies on sexual behavior problems, and provides an opportunity to examine early treatment, that if successful, can provide the best potential for long-term risk reduction of further SM behaviors.

The *Matchit* package in the 64-bit version of R. 3.3.3 was used (Ho, Imai, King & Stuart, 2011). The default method for CEM was selected and matching was not 1:1. Balance among the covariates after matching was assessed with numerical diagnostics, histograms (see Appendix M). and quantile-quantile plots (see Appendix N).The matching quality achieved was >90% for the majority of variables. The second study goal was to examine the demographic, clinical and treatment profiles of the matched sample based on group membership.

Although analysis of TTs and PEs at the intensive in-home level of care for youth included the target of SM, treatment was not solely tailored to it. To explore how treatment targets and practice elements group when SM was the primary target of treatment, therapist's endorsement of PE and TT's for male youth treated at residential juvenile sexual offender (JSO) program were analyzed. The third study goal examined whether treatment target and practice profiles of youth with SM clustered into distinct groups, TwoStep cluster analyses were conducted on (1) the practice elements and (2) treatment targets identified within a subsample of boys who received residential based juvenile sexual offender treatment (n=49) using the log-likelihood as the distance measure and the presence or absence of endorsement of a practice element or treatment target as the categorical measure. Cluster analysis is susceptible to outliers (Kanal, 1972). Only treatment target and practice element variables with endorsement rates greater than 10% and less than 90% were included. TwoStep cluster analysis allowed the number of clusters to be automatically determined and produced a three cluster solution for treatment targets and a four cluster solution for practice elements. The

automatically three cluster and four cluster solutions were found to represent the best solution as measured by highest value for the ratio distance measures and lowest value of the Schwarz's Bayesian Criterion. Silhouette coefficients range from -1 to +1, with higher values indicating stronger cluster classification (Rousseeuw, 1987). Both groups had "fair" model silhouette and cohesion. The silhouette coefficient for the treatment target three-cluster solution was .02 and .04 for the practice element four-cluster solution. Chi-square analyses were conducted to examine between group cluster differences on treatment targets and practice elements. One-Way ANOVA and Chi-square analyses were conducted to examine whether treatment target and practice element cluster groups differed on demographic and clinical variables.

Human Subjects Considerations

This study was submitted to the University of Hawai‘i at Mānoa Committee on Human Studies Institutional Review Board prior to data retrieval (CHS# 22785). Upon entry into CAMHD, youth clients and their legal guardian(s) received a complete description of CAMHD's Notice of Privacy and Disclosure Procedures and provide written informed consent for the use of data for research purposes. This study met the stated standards of the Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA; CAMHD, 2006).

Results

Characteristics of Youth with and without SM Across all Levels of Care

For youth with SM targeted it was endorsed a median of twice during the treatment episode (range=1-36 endorsements; 25th percentile=1, 50th percentile=2, 75th percentile=6). Youth with SM had significantly more (t_{4362}=170.03, p<.001) treatment episodes within the CAMHD system compared to youth without SM (M=7.61, SD=8.61 vs. M=3.69, SD=4.43).

Youth with SM did not significantly differ from youth without SM targeted with regard to age, gender, or ethnicity (see Table 1). However, youth with SM were rated as

significantly more impaired by providers (t_{4362}=5.38, p<.001), as evidenced by higher total CAFAS scores (M=108.75, SD=35.35 vs. M=99.50, SD=35.54). Compared to youth without SM (M=2.21, SD=0.82), youth with SM (M=2.25, SD=0.79) carried significantly more diagnoses (t_{4362}=4.70, p<.001). Youth with SM were also more likely to have a primary diagnosis related to traumatic stress (x^2=20.56, p<.001), sexual disorder (x^2=12.49, p<.01), or have a V code which indicated abuse or neglect (x^2=65.68, p<.001). They were also more likely to have a diagnosis that was categorized as "miscellaneous" (x^2=10.71, p<.01) and less likely (x^2=4.45, p<.01) to be diagnosed with adjustment (select primary diagnostic comparisons are presented in Table 1; see Appendix D for full table).

The mean length of the treatment episode for youth with SM was 402 days (SD=324.08), with a range of 23 to 2191 days (25th percentile=170, 50th percentile=327, 75th percentile=539). This was significantly longer (t_{4362}=10.34, p<.001) than the average treatment episode length for youth without SM (M=277.26, SD=239.32; range=7 to 2984 days; 25th percentile=140 days, 50th percentile=208 days, 75th percentile=343 days). Close to half of youth with SM, received intensive in-home services (41.5%), followed by therapeutic foster home (17.7%) and community-based residential sexual offender treatment (CHR; 13.6%) (see Appendix F for complete placement data). Youth with SM were significantly more likely to be receiving treatment services in an out-of-home placement (x^2= 119.34, p<.001), such as: crisis services, community-based residential care, community mental health shelter, hospital-based residential care, partial hospitalization, therapeutic foster home, therapeutic group home, or multi-dimensional treatment foster care.

Diversity and Dosage of Treatment Targets and Practice Elements in a Matched Sample at the Intensive In-Home Level of Care

Comparison of subsample demographics and clinical variables. Comparison analysis of the matched sample found no significant differences between youth with (n=142) and without SM (n=469) on gender, ethnicity, age, impairment, or number of diagnoses (see

Table 2). Despite procedures to optimize matching, youth could not be successfully matched on length of treatment. Youth with SM had longer treatment episodes compared to youth without SM (M= 302.27, SD=190.90 vs. M=252.70, SD=149.00). Type of diagnosis was not a variable youth were matched on. In comparing this, youth with SM were more likely to be diagnosed with traumatic stress (x^2= 5.10, p<.05) and less likely to be diagnosed with anxiety (x^2= 3.97, p<.05).

Table 1. *Comparison of Client and Clinical Characteristics of Youth with (n=479) and without (n=3885) Sexual Misconduct Target*

Variables	With Sexual Misconduct			Without Sexual Misconduct				
	M (SD)	***n***	**%**	**M (SD)**	***n***	**%**	x^2	t_{4362}
Age	14.11 (3.20)			14.19 (3.10)				0.53
Impairment (CAFAS score)	108.75 (35.35)			99.50 (35.54)				5.38***
Diagnoses (total number)	2.25 (0.79)			2.07 (8.20)				4.70***
Disruptive Behavior		141	29.4		1253	32.3	1.55	
Attention		90	18.8		642	16.5	1.56	
Depressive Mood		64	13.4		652	16.8	3.64	
Traumatic Stress		51	10.6		211	5.4	20.56***	
Bipolar		31	6.5		261	6.7	0.11	
Miscellaneous		31	6.5		134	3.4	10.71**	
Adjustment		22	4.6		279	7.2	4.45**	
Substance Abuse		12	2.5		147	3.8	1.99	
Anxiety		14	2.9		164	4.2	1.84	
Sexual Disorder		4	0.8		4	0.1	12.49**	
V Code Abuse		11	2.3		3	0.1	65.68***	
Length of Treatment Episode	402.54 (324.37)			277.26 (239.32)				10.34***
Ethnicity								
Asian		35	7.3		337	8.7	1.02	
American Indian or Alaska Native		3	0.6		19	0.5	0.16	
Black or African American		14	2.9		66	1.7	3.55	
Native Hawaiian or Other Pacific Islander		69	14.4		442	11.4	3.78	
White		75	15.7		587	15.1	0.10	
Other		3	0.6		36	0.9	0.43	
Multiracial		251	52.4		2032	52.3	0.00	
Not Available		29	6.1		366	9.4	5.87*	
Gender (Male)		313	65.3		2415	62.2	1.84	
Out-of-Home Treatment Placement		264	55.1		1175	30.2	119.34***	

*$p<.05$, **$p<.01$, ***$p<.001$

Table 2. *Comparison of Client and Clinical Characteristics in a Subsample of Youth with (n=142) and without (n=469) Sexual Misconduct Targeted at the Intensive In-Home*

Variables	**With Sexual Misconduct**			**Without Sexual Misconduct**				
	M (SD)	***n***	**%**	**M (SD)**	***n***	**%**	x^2	t_{609}
Age	14.20 (3.20)			14.70 (2.80)				1.66
Impairment (CAFAS score)	99.37 (29.80)			97.83 (24.60)				0.62
Diagnoses (total number)	2.32 (0.79)			2.27 (0.78)				0.74
Disruptive Behavior		36	25.4		149	31.8	2.13	
Attention		28	19.7		84	17.9	0.24	
Depressive Mood		27	19.0		92	19.6	0.03	
Traumatic Stress		13	9.2		20	4.3	5.10*	
Bipolar		13	9.2		31	6.6	0.11	
Miscellaneous		8	5.6		9	1.9	5.56	
Adjustment		6	4.2		31	6.6	0.11	
Substance Abuse		4	2.8		15	3.2	0.05	
Psychosis		3	2.1		11	2.3	0.03	
Anxiety		2	1.4		25	5.3	3.97*	
Sexual Disorder		1	0.7		0	-	-	
Length of Treatment Episode	302.70 (190.90)			252.70 (149.00)				3.27**
Total Count of MTPS	9.69 (5.99)			8.31 (5.19)				2.679**
Ethnicity								
Asian		15	10.6		56	11.9	0.20	
American Indian or Alaska Native		1	0.7		3	0.6	0.01	
Black or African American		6	4.2		4	0.9	7.70	
Native Hawaiian or Other Pacific Islander		16	11.3		41	8.7	0.82	
White		21	14.8		66	14.1	0.05	
Other		1	0.7		4	0.9	0.03	
Multiracial		75	52.8		253	53.9	0.06	
Not Available		7	4.9		42	9.0	2.40	
Gender (Male)		90	63.4		315	67.2	0.40	

*$p<.05$, **$p<.01$, ***$p<.001$

Comparison of treatment target diversity and dosage scores. Youth with SM had a significantly higher proportion of unique treatment targets (i.e., total TT diversity) used during their treatment episode (t_{609}=6.29, p<.001; see Table 3). When comparing target diversity scores by each of the five individual treatment target factors, youth with SM were significantly higher on all of them: *Disinhibition* (t_{609}=4.91, p<.001), *Societal Rules Evasion* (t_{609}=2.35, p<.05), *Social Engagement Deficits* (t_{609}=3.41, p<.001), *Emotional Distress*

Table 3. Comparison of Treatment Target Diversity and Dosage Scores in a Subsample of Youth with (n=142) and without (n=469) Sexual Misconduct (SM) Targeted at the Intensive In-Home Level of Care, Matched on Age, Impairment, Total Diagnoses, Ethnicity, and Gender

Variables	**With SM**	**Without SM**	**95% CI diff**			
	M (SD)	**M (SD)**	**Low**	**Upr**	t_{609}	***d***
Total Diversity Score	0.29 (0.12)	0.22 (0.11)	0.05	0.09	6.29***	0.60
Diversity Factor Scores						
Disinhibition	0.47 (0.23)	0.35 (0.26)	0.07	0.17	4.91***	0.48
Societal Rules Evasion	0.30 (0.30)	0.23 (0.26)	0.01	0.12	2.35*	0.23
Social Engage Deficits	0.46 (0.28)	0.37 (0.27)	0.04	0.14	3.41***	0.33
Emotional Distress	0.30 (0.25)	0.20 (0.21)	0.06	0.15	4.34***	0.43
Biodev Outcomes	0.26 (0.24)	0.16 (0.20)	0.07	0.14	5.24***	0.48
Total Dosage Score	6.18 (2.35)	5.29 (2.41)	0.45	1.35	3.91***	0.37
Dosage Factor Scores						
Disinhibition	1.35 (0.88)	1.13 (0.95)			2.48*	0.24
Societal Rules Evasion	0.48 (0.66)	0.41 (0.55)			1.26	0.11
Social Engage Deficits	1.02 (0.74)	0.93 (0.80)			1.08	0.11
Emotional Distress	0.61 (0.67)	0.47 (0.64)			2.23*	0.21
Biodev Outcomes	0.47 (0.51)	0.32 (0.47)			3.16**	0.29

$^{*}p$<.05, $^{**}p$<.01, $^{***}p$<.001

(t_{609}=4.34, p<.001) and *Management of Biodevelopmental Outcomes* (t_{609}=5.24, p<.001). Therapists reported addressing a significantly greater number of treatment targets each month, on average, throughout the treatment episode (i.e., target dosage) for youth with SM (M=6.18, SD=2.35) compared to youth without SM (M=5.29, SD=2.41; t_{609}= 3.91, p<.001; see Table 3). When target dosage scores were examined by treatment target factors, there were no significant group differences on the *Societal Rules Evasion* or *Social Engagement*

Deficits factors. However, youth with SM did have more targets endorsed per month on average for the factors of *Disinhibition* (t_{609}=2.48, p<.05), *Emotional Distress* (t_{609}=2.23, p<.05), and *Management of Biodevelopmental Issues* (t_{609}=3.16, p<.01).

Comparison of practice element diversity and dosage scores. Youth with SM also had a significantly higher proportion of unique practice elements (i.e., total PE diversity) reported during their treatment episode (t_{609}= 3.98, p<.001; see Table 4). When comparing PE diversity scores by each of the three individual practice element factors, youth with SM were significantly higher on all of them: *Behavior Management* (t_{609}= 3.92, p<.001), *Coping/Self-Control* (t_{609}= 3.42, p<.01), and *Family Interventions* (t_{609}= 2.54, p<.05). Therapists reported addressing significantly more practice elements on average each month during treatment episode (i.e., PE dosage) for youth with SM (M=12.68, SD=5.73) compared to youth without SM (M=11.39, SD=6.97; t_{609}= 2.00, p<.05; see Table 4). When PE dosage scores were examined by PE factors, there were no significant group differences on the *Coping/Self-Control* or *Family Interventions* factors. However, youth with SM did have more PE endorsed per month on average for the *Behavior Management* (t_{609}=2.32, p<.05) factor.

Table 4. *Comparison of Practice Element Diversity and Dosage Scores in a Subsample of Youth with (n=142) and without (n=469) Sexual Misconduct (SM) Targeted at the Intensive In-Home Level of Care, Matched on Age, Impairment, Total Diagnoses, Ethnicity, and Gender*

	With SM	**Without SM**	**95% CI diff**			
Variables	**M (SD)**	**M (SD)**	**Low**	**Upr**	t_{609}	***d***
Total Diversity Score	0.41 (0.15)	0.35 (0.16)	0.31	0.92	3.98***	0.39
Diversity Factor Scores						
Behavior Mgmt	0.50 (0.20)	0.41 (0.22)	0.04	0.12	3.92***	0.42
Coping/Self-Control	0.51 (0.21)	0.44 (0.23)	0.03	0.12	3.42**	0.34
Family Interventions	0.58 (0.20)	0.52 (0.22)	0.01	0.09	2.54*	0.25
Total Dosage Score	12.68 (5.73)	11.39 (6.97)	0.02	2.55	2.00*	0.20
Dosage Factor Scores						
Behavior Mgmt	3.87 (2.16)	3.36 (2.33)	0.08	0.94	2.32*	0.23
Coping/Self-Control	4.80 (2.36)	4.41 (2.30)	0.08	0.87	1.64	0.17
Family Interventions	4.09 (1.94)	3.81 (2.15)	0.11	0.68	1.42	0.14

*p<.05, **p<.01, ***p<.001

Cluster Solutions for Treatment Target and Practice Element Endorsement in a Sample of Boys Receiving Residential-Based Sexual Offender Treatment

Subsample demographics and clinical variables. The subsample of male youth who received residential-based sexual offender treatment was older (M=15.65, SD = 1.48) and more highly impaired (CAFAS M=125.70, SD=27.20) than the general CAMHD population (see Table 5). They primarily identified as multiracial (49.0%), had a primary diagnosis of disruptive behavior (42.9%), and carried multiple diagnoses (75.5%). Their treatment stay lasted a mean of 546.Bench days (SD= 229.4), during which time an average of 15.4 MTPS were submitted to describe their treatment (SD=7.1).

Table 5. *Client and Clinical Characteristics of Boys (n=49) in a Residential Based Juvenile Sexual Offender Treatment Program*

Variables	**M (SD)**	***n***	**%**
Age	15.65 (1.48)		
Impairment (CAFAS score)	125.70 (27.20)		
Diagnoses (total number)	2.10 (0.75)		
Disruptive Behavior		21	42.9
V Code Abuse		6	12.2
Miscellaneous		2	4.1
Attention		7	14.3
Bipolar		5	10.2
Depressive Mood		4	8.2
Anxiety Disorder		1	2.0
Sexual Disorder		1	2.0
Adjustment		1	2.0
Substance Abuse		1	2.0
Length of Treatment Episode	546.25 (229.40)		
Ethnicity			
Asian		3	6.1
American Indian or Alaska Native		1	2.0
Black or African American		1	2.0
Native Hawaiian or Other Pacific Islander		8	16.3
White		9	18.4
Multiracial		24	49.0
Not Available		3	6.1

Examination of treatment target clusters. Treatment targets clustered into three groups; significant overlap between groups made it challenging to detect distinct treatment profiles (see Table 6). Cluster 1 (*n*=23) was characterized by high endorsement rates for a

large, diffuse range of treatment targets; over 20 were endorsed in >50% of the sample. Cluster 2 (*n*=15) showed high rates of endorsement of the following treatment targets: Adjustment to Change (85.7%), School Involvement (71.4%), Self-Injurious Behavior (58.8%), and Treatment Engagement (55.6%). Cluster 3 (*n*=11) was characterized by a high endorsement rates on Positive Family Functioning (54.5%) and Health Management (50%). There were no significant differences between treatment target cluster groups on age, ethnicity, impairment, treatment episode length, number of MTPS administered, total diagnoses, or primary diagnostic categories (results not tabled).

Examination of practice element clusters. Practice elements clustered into four groups (see Table 7). As with treatment targets, there was significant overlap of practices between clusters (i.e., Cluster 2, Cluster 3 and Cluster 4), making it difficult for distinct practice profiles to clearly emerge. Cluster 1 (*n*=6) was characterized by low endorsement rates across PEs with the exception of Care Coordination (40.0%). Cluster 2 (*n*=16) was associated with a high percentage of total endorsement of Behavioral Contracting (100%), Goal Setting (100%), and Personal Safety Skills (100%). Cluster 3 (*n*=13) was associated with high rates of therapist endorsement on the following PEs: Guided Imagery (85.7%), Catharsis (81.3%), Interpretation (72.7%), Peer Pairing (66.7%), and Teacher Monitoring (66.7%). Cluster 4 (*n*=14) was notable for high rate of total endorsement on the PE of Stimulus Control/Antecedent Management (59.1%).

PE cluster groups did not differ significantly on age, ethnicity, impairment, treatment episode length, total diagnoses, or primary diagnostic categories (results not tabled). Youth in Cluster 2 (M=19.81, SD=6.26) and Cluster 3 (M=16.85, SD=7.20) had a significantly greater number of MTPS administered over the course of their treatment episodes in comparison to the remaining Cluster 1 (M=10.83, SD=1.83) and Cluster 4 (M=11, SD=6.10; $F_{3, 45}$= 6.44, *p*=.001).

Table 6. *Cluster Analysis of Treatment Target, Ordered by Magnitude of Significance for Post Hoc Chi-Square Comparison of Group Means*

	Cluster 1 (*n*=23)		**Cluster 2 (*n*=15)**		**Cluster 3 (*n*=11)**		
Treatment Target	***n***	**%**	***n***	**%**	***n***	**%**	x^2
Anxiety	16	88.9	0	0.0	2	11.1	21.01***
Cog. Intellectual Functioning	16	100.0	0	0.0	0	0.0	26.86***
Depressed Mood	17	77.3	0	0.0	5	22.7	20.05***
Empathy	23	53.5	9	20.9	11	25.6	15.5***
School Involvement	3	21.4	10	71.4	1	7.1	15.43***
Academic Achievement	13	46.4	4	14.3	11	39.3	13.94**
Oppositional Behavior	14	48.3	4	13.8	11	37.9	14.18**
Avoidance	17	73.9	4	17.4	2	8.7	12.85**
Self-Esteem	16	64.0	2	8.0	7	28.0	12.39**
Self-Injurious Behavior	7	41.2	10	58.8	0	0.0	12.80**
Treatment Engagement	8	44.4	10	55.6	0	0.0	12.21**
Adjustment to Change	1	14.3	6	85.7	0	0.0	11.79**
Positive Family Functioning	5	45.5	0	0.0	6	54.5	10.86**
Activity Involvement	12	41.4	6	20.7	11	37.9	10.34**
Assertiveness	21	53.8	8	20.5	10	25.6	9.18**
Attention Problems	14	70.0	5	25.0	1	5.0	8.77*
Phobia or Fears	11	52.4	9	42.9	1	4.8	7.15*
Health Management	4	33.3	2	16.7	6	50.0	7.01*
Self Control	7	87.5	0	0	1	12.5	6.7*
Aggression	9	75.0	3	25	0	0.0	6.40*
Positive Peer Interaction	11	36.7	13	43.3	6	20	6.04*
Social Skills	11	57.9	7	36.8	1	5.3	5.27
Contentment	6	85.7	1	14.3	0	0.0	5.16
Learning DO/Underachvmt	6	85.7	1	14.3	0	0.0	5.16
Peer or Sibling Conflict	6	66.7	3	33.3	0	0.0	3.42
Peer Involvement	9	60.0	5	33.3	1	6.7	3.24
Shyness	4	80.0	0	0.0	1	20.0	3.02
Willful Misconduct/ Delinq.	2	40.0	3	60.0	0	0.0	2.88
Hyperactivity	4	80.0	1	20.0	0	0.0	2.75
Anger	18	51.4	9	25.7	8	22.9	1.50
Positive Thinking	11	50	5	22.7	6	27.3	1.30
Substance Abuse	17	48.6	11	31.4	7	20.0	.420

*$p<.05$, **$p<.01$, ***$p<.001$

Treatment Target percentage reflects endorsement rate within total n of target endorsement (not shown in table).

Table 7. *Cluster Analysis of Practice Elements, Ordered by Magnitude of Significance for Post Hoc Chi-Square Comparison of Group Means*

	Cluster 1 (*n*=6)		**Cluster 2 (*n*=16)**		**Cluster 3 (*n*=13)**		**Cluster 4 (*n*=14)**		
Treatment Target	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**	x^2
Activity Scheduling	0	0.0	15	37.5	11	27.5	14	35	31.46***
Assertiveness Training	1	2.3	16	36.4	13	29.5	14	31.8	39.9***
Behavioral Contracting	0	0.0	15	100	0	0.0	0	0.0	44.59***
Care Coordination	6	40.0	9	60	0	0.0	0	0.0	30.46***
Catharsis	0	0.0	2	12.5	13	81.3	1	6.3	36.82***
Cognitive	0	0.0	14	34.1	13	31.7	14	34.1	36.19***
Commands	0	0.0	7	20.6	13	38.2	14	41.2	30.46***
Goal Setting	0	0.0	16	100	0	0.0	0	0.0	49.0***
Insight Building	0	0.0	16	37.2	13	30.2	14	32.6	49.0***
Line of Sight Supervision	0	0.0	14	35.9	11	28.2	14	35.9	27.80***
Maintenance/Relapse Prevention	0	0.0	14	34.1	13	31.7	14	34.1	36.19***
Mentoring	1	5.6	2	11.1	13	72.2	2	11.1	30.51***
Modeling	0	0.0	10	27.0	13	35.1	14	37.8	28.72***
Natural and Logical Consequences	1	2.4	16	39.0	10	24.4	14	34.1	26.01***
Praise	0	0.0	9	32.1	13	46.4	6	21.4	18.92***
Peer Pairing	0	0.0	4	22.2	12	66.7	2	11.1	24.74***
Problem Solving	1	2.3	16	36.4	13	29.5	41	31.8	39.91***
Psychoeducation Child	3	9.4	3	9.4	13	40.6	13	40.6	27.52***
Relaxation	0	0.0	12	44.4	12	44.4	3	11.1	23.62***
Monitoring	0	0.0	14	34.1	13	31.7	14	34.1	36.20***
Self-Reward/Praise	1	2.6	13	33.3	11	28.2	14	35.9	18.45***
Stim Ctrl/Antecdent Mgmt	0	0.0	0	0.0	9	40.9	13	59.1	34.05***

	Cluster 1 (*n*=6)		Cluster 2 (*n*=16)		Cluster 3 (*n*=13)		Cluster 4 (*n*=14)		
Treatment Target	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**	x^2
Tangible Rewards	0	0.0	14	48.3	12	41.4	3	10.3	28.17***
Therapist Praise or Rewards	0	0.0	13	32.5	13	32.5	14	35	32.74***
Time Out	1	2.4	15	35.7	12	28.6	14	33.3	27.00***
Twelve Step Program	3	9.1	15	45.5	13	39.4	2	6.1	30.12***
Interpretation	0	0.0	1	9.1	8	72.7	2	18.2	16.09**
Personal Safety Skills	0	0.0	7	100	0	0.0	0	0.0	16.84**
Guided Imagery	0	0.0	0	0.0	6	85.7	1	14.3	15.03**
Motivational Interviewing	1	4.8	13	61.9	3	14.3	4	19	14.55**
Ignoring	0	0.0	9	60.0	5	33.3	1	6.7	11.61**
Teacher Monitoring	0	0.0	3	33.3	6	66.7	0	0.0	11.20*
Psychoeducation Parent	2	7.1	6	21.4	11	39.3	9	32.1	8.21*
Crisis Management	0	0.0	7	46.7	6	40.0	2	13.3	7.18
Attending	0	0.0	3	42.9	4	57.1	0	0.0	6.48
Mindfulness	0	0.0	8	53.3	4	26.7	3	20.0	6.03
Thought Field Therapy	0	0.0	1	16.7	4	66.7	1	16.7	5.86
Medication Pharmacotherapy	2	6.5	13	41.9	9	29.0	7	22.6	5.80
Response Prevention	0	0.0	4	28.6	4	28.6	6	42.9	3.93

*$p<.05$, **$p<.01$, ***$p<.001$

Discussion

The goals of the current research were to 1) compare youth with and without sexual misconduct (SM) in a multi-level high-end child mental health system of care on demographic and clinical characteristics, 2) investigate patterns in treatment for youth with and without SM at the intensive in home level of care by comparing the range (diversity) and frequency (dosage) of treatment targets and practice profiles for a matched sample of youth from this same system of care, and 3) explore whether treatment targets and practice elements cluster in meaningful ways for a subsample of juvenile sexual offending youth in residential treatment.

Youth with Sexual Misconduct Differ Significantly from General System Population

Regarding Study Goal 1, youth with SM did not differ notably from non-SM youth with regard to demographic variables such as age, gender, and ethnicity. However, as hypothesized they did appear to be characteristically different from youth without SM in this system of care in both their clinical presentation and their treatment patterns. In terms of clinical presentation, youth with SM were more likely to have a primary diagnosis of traumatic stress or sexual disorders compared to youth without SM. Consistent with prior research, youth with SM were also found to have higher percentages of recorded abuse and neglect in their diagnostic profiles (Johnson, 1989). As a group, youth with SM were significantly more impaired compared to the general population, as evidenced by their greater number of co-occurring disorders and significantly higher scores on the CAFAS (a measure of impairment).

Perhaps due to this greater impairment, youth with SM had notably different treatment patterns than non-SM youth. Specifically, SM youth had a greater number of service episodes (indicative of movement across levels of care and/or exit and re-entry into the system). They also tended to be placed in more restrictive levels of care, such as therapeutic foster care or specialized residential treatment facilities. Finally, youth with SM

were also observed to have longer treatment episode lengths than youth without SM. Differences in out-of-home treatment placement options may partially explain this finding because one residential placement within the system of care was designated solely for youth with SM. While cost data were not included in this study, SM youth likely received more costly services over their period in CAMHD.

To be able to compare "treatment as usual" for youth with SM to similar usual care clients, a comparison group of youth without SM, that was matched on age, gender, length of treatment, impairment (i.e., CAFAS score), and number of diagnoses was created. Despite attempts to create comparable groups, youth with SM had significantly longer treatment episodes than youth without SM. Differences in treatment length across the two groups did not likely impact the dosage results because number of administered MTPSs were controlled for in treatment target and practice element dosage calculations. It also did not likely affect treatment target and practice element diversity scores as youth with SM received on average, only one more MTPS over the course of their treatment episode as compared to youth without SM. Treatment at the intensive in-home level was selected because it generally serves as the first of line for intervention for SM, is the most common level of care in this system, is most similar to the majority of studies on sexual behavior problems and its treatment, and provides an opportunity to examine early treatment, that if successful, can provide the best potential for long-term risk reduction of further SM behaviors.

Therapists Endorse a Greater Number of Unique and Total Treatment Targets and Practice Elements for Youth with Sexual Misconduct

Similar to Orimoto et al.'s (2014) findings with multimorbid youth, therapists endorsed more of PEs and TTs for youth with SM, whether measured as dosage or diversity of elements. Consistent with hypotheses, youth with SM had greater treatment target diversity and dosage compared to the matched youth without SM. With regards to diversity, SM youth received more unique treatment targets focused on all five of the known target factors,

Disinhibition, Emotional Distress, Coping and Self-Control, *Societal Rules Evasion and Management of Biodevelopmental Issues* in comparison to youth without SM. Results demonstrated that across the board, therapists tended to endorse more unique TTs (i.e., target diversity) for youth with SM. These endorsements were not concentrated in any of the five target factor areas examined, thus suggesting that (and consistent with prior research) youth with SM experience a variety of concurrent psychological difficulties not clearly focused in one domain (Bonner, Walker and Berliner, 2001; Chaffin, Letourneau & Silvosky, 2002). That said, the targets of substance abuse, school truancy, assertiveness and positive peer interaction were not endorsed at differing rates for intensive-in-home youth with and without SM. This discovery runs counter to prior work which has found teens with SM have less delinquency and substance abuse problems, and less negative peer influences compared to non-SM teens (Seto & Lalumiere, 2010). The difference in past and present research findings could be attributable to the notably smaller sample size of youth with SM in the current study compared to Seto and Lalumiere (2010), who examined the risk factors in a meta-analysis of 59 independent studies (n = 142 vs. n = 3,885) of court-involved youth ranging in age from 12 to 19. But it is likely the discrepancy in findings may be due to the current sample being on average, older, more impaired, multimorbid and being exposed to greater opportunities for maladaptive behavior since they are in the community rather than detention settings (like much of Seto and Lalumiere's (2010) sample).

With regard to target dosage, IIH therapists reported addressing more targets per month for youth with SM compared to youth without SM, despite controlling for variability due to treatment episode length. Although coarsened exact matching also controlled for overall impairment and number of diagnoses (factors known to affect usual care treatment, Orimoto et al., 2014) therapist still endorsed a higher number of targets per month and more unique targets over the course of treatment. This suggests that, even though no more impaired than the comparison group, therapists might be responding to other factors characteristic of

SM clients. For instance, but beyond the scope of the present study, therapists might feel additional pressure regarding treatment success given social approbation regarding sexual problems, particularly sexual offenses.

In contrast to target diversity, differences in the frequency of target endorsement were clearly concentrated within three of the five factors: *Disinhibition*, *Emotional Distress*, and *Biodevelopmental Issues*. It is interesting that youth with and without SM did not differ in dosage rates of targets related to *Societal Rules Evasion* and *Social Engagement Deficits*. This might be explained by the high number of youth with disruptive behavior disorders who are referred and treated within the CAMHD system regardless of SM, thus limiting any notable difference in the average number of targets selected by therapists within these factors.

Individual treatment targets that were endorsed notably more often for youth with SM for both target diversity and dosage included: oppositional behavior, aggression, anger, traumatic stress, social skills, and positive family functioning. Collectively, TT findings lend support to prior research which found children with sexual behavior problems often experience concurrent behavioral difficulties including poor impulse control, aggressive behaviors, inaccurate perceptions of social stimuli causing peer and academic difficulties (Bonner, Walker & Berliner, 2001; Silvosky, Niec & Hercht, 2007). The higher overall endorsement of targets for youth with SM for both diversity and dosage may be a reflection of the more dynamic and varied emotional and behavioral challenge SM youth face, perhaps due in part to the high rates of complex trauma in the population. However, these findings may also be indicative of therapist behavior. Therapists might systematically endorse more TTs in the SM group because they tend to overrate the complexity of clinical presentation (given that SM is a highly salient and stigmatizing clinical concern).

As predicted, IIH therapists endorsed a greater proportion of unique intervention practices across the treatment episode (diversity) and more PEs on average per month (dosage) for youth with SM compared to the matched non-SM youth.

In line with the multitude of TTs endorsed for youth with SM, therapists reported employing a high proportion of unique interventions (PE diversity) within all three target factors examined: *Behavior Management, Coping/Self-Control,* and *Family Interventions*. Although within-person relationships between specific TT and PE endorsements were not examined, logical relationships emerged at the group level between factors that were frequently targeted by therapists (i.e., TT dosage) and the diversity of practices seemingly used to address such targets. For example, the practices of crisis management, social skills training, personal safety skills, and line of sight supervision occurred at high proportion rates in the SM sample, and are consistent with addressing targets related to *Disinhibition,* thereby increasing safe and successful social interactions. Similarly, the highly endorsed practice of emotional processing may be intended to address targets related to *Emotional Distress* in youth with SM, while the PE of medication or pharmacotherapy may be related to the management of *Disinhibition* or *Biodevelopmental Issues*. Although therapists endorsed a wide breadth of unique practices seemingly related to TT endorsement, the average number of practices endorsed by the therapists per month (practice element dosage score) did not reflect significant focus across all these factor areas.

With regard to PE dosage, therapists endorsed delivering a greater number of PEs overall per month for youth with SM. However, when examining differences at the PE factor level, only PEs on the *Behavior Management* factor were endorsed at significantly higher rates in the SM sample. When viewed in totality with TT results, PE dosage results suggest that, overall, therapists are endorsing a lot of PEs and consistently over time are targeting both internalizing (e.g., *Emotional Distress*) and externalizing (e.g., *Disinhibition*) concerns. However, only *Behavioral Management* strategies are being delivered to the SM group with significantly greater depth or intensity over time, relative to the non-SM group (i.e., PE dosage). This is encouraging because research suggests that incorporating behavior

management strategies results in a reduction of sexual behavior problems in youth with SM (Armand, 2008; Walker et al, 2005).

Notably, therapists did not endorse a significantly greater use of PEs aligned with the factors of *Self-Coping/Self-Control* and *Family Interventions* per month for youth with SM relative to those without SM. This points to a potential gap in treatment at the intensive in-home level of care, given research demonstrating that the use of self-control and family intervention strategies are associated with reduced sexual behavior problems (Armand, 2008; Walker et al, 2005). It may be therapists in CAMHD conceptualize SM to be primarily a behavioral issue, and consistent with previous findings in this system of care, are prioritizing externalizing over internalizing behaviors in treatment (Milette-Winfree, Mueller, Hee & Runland, in press). This is potentially concerning because within our matched sample, youth with SM had higher rates of co-occurring traumatic stress, yet did not receive significantly higher dosages of PEs consistent with best practices for trauma. This is consistent with Borntrager and colleagues' previous analysis of relatively low levels of practices delivered to youth with traumatic stress in CAMHD (Borntrager, Chorpita, Higa-McMillan, Daleiden, & Starace, 2013).

In terms of family interventions, it may be that therapists' opportunities to apply family-based interventions are limited, as a result of factors contributing to the higher rates of trauma and abuse within this population (e.g., caregiver impairment).

There is Significant Overlap in Clusters for Residential Treatment of Sexual Misconduct

Although analysis of TTs and PEs at the intensive in-home level of care for youth included the target of SM, treatment was not solely tailored to it. To explore how treatment targets and practice elements group when SM was the primary target of treatment, therapist's endorsement of PE and TT's for male youth treated at residential juvenile sexual offender (JSO) program were examined. Though significant overlap was found between clusters, emotional and behavioral pathways to SM were somewhat reflected in treatment target

groups and diverse intervention approaches to youth with SM were seen across practice element groups.

With regard to TTs, no singular clear treatment profile emerged for this setting (as indicated by the absence of treatment targets with endorsement rates ≥ 90%). Three TT clusters were identified after analysis. Efforts to identify the distinctions between each of the three clusters were hindered by small sample sizes within, and significant TT overlap between clusters. This mirrors the results obtained by other researchers who have also sought to analyze how clinical presentation difficulties cluster within samples of youth with sexual misconduct (Bonner et al., 2001; Chaffin et al., 2006; Pithers et al., 1998). Two of the three TT cluster groups somewhat matched the pathways proposed in prior research. Ward and Siegert (2002) suggested five pathways to SM, one of which includes multiple dysfunction and deficits in all areas. Consistent with this, Cluster 1 included a high rate of total endorsement of TTs and is consistent with serious impairment across multiple emotional and behavioral domains. Additionally, the highest rates of endorsement for the TTs of empathy, anger, aggression, self-control were found in Cluster 1; this offers support for a pathway proposed by Knight Sims-Knight (2005) that involved deceitfulness, emotional detachment, and/or aggressive behavior. Cluster 2 was characterized by high endorsement of targets related to social involvement (e.g., social skills, self-injurious behavior, treatment engagement, school involvement), which supports another pathway to SM, suggested by Ward and Siegert, that relates to intimacy and social skill deficits. Cluster 3 represented a target profile focused on positive family functioning and health management.

With regard to PEs, 11 practices characterized the therapeutic approach for SM youth in the CAMHD residential treatment setting (as evidenced by endorsement rates ≥ 90%): rapport building, family engagement, family therapy, individual therapy for caregiver, educational supports, emotional processing, communication skills, skill building, social skills building, supportive listening, and milieu therapy. Unlike treatment at some other levels of

care (e.g., intensive in-home), these near-universal practices reflect an intervention approach selected and defined by the program, rather than by an individual therapist. By removing these and analyzing the remaining PEs, it is more likely findings will reflect therapist differences in intervention selection. When this was done, four PE clusters emerged. There was significant overlap occurring between Clusters 2, 3 and 4. Cluster 1 was defined by the use of care coordination as the most frequent intervention practices, whereas Cluster 2, 3, 4 shared endorsement of numerous overlapping PEs. Taking into account these commonalities while narrowing in on the differences in PEs, these three clusters might be described as focusing on: twelve step programming and goal directed behavior modification (Cluster 2), use of non-evidenced based therapies (Cluster 3), and disruptive behavior management techniques (Cluster 4). The practice profile of Cluster 3 was concerning because the use of psychodynamic or non-directive person centered practices have not been found to be effective at reduce juvenile sexual offending behavior (Brown, 2013). Clusters 2, 3, and 4 did not appear to reflect recognizable aspects of the PE factor groups identified in earlier work within this system of care (Orimoto et al., 2012) or a manualized treatment approach. Taken together, TT and PE cluster analyses extend previous research findings that suggest a variety of treatment modalities are employed in residential juvenile sexual offending treatment programs (Brown, 2013; Chancey, Lowe & Risler, 2010; Rich, 2011).

Clinical Implications for Treatment of Sexual Misconduct

Within the system of care under study, the only specialized treatment options available for SM require residential care. Given that sexual misconduct is a low frequency behavior with low recidivism rates and the clinical importance of least restrictive care for youth, it is important to consider whether SM warrants a lengthy, highly confined treatment modality. Though cluster analyses suggest treatment for SM within this system includes some skill-buildings practices that may be beneficial (e.g., social skills, communication skills, emotional coping), the youth's opportunity to practice these skills in home, school and peer

social situations are severely limited by the nature of the setting. Furthermore, the youth's caregiver has limited opportunity to provide oversight of their child or to incorporate parenting behavior management strategies within the youth's natural environment that mitigate the risk of future difficulties. Specialized residential facilities also interfere with age and developmentally appropriate social development and may result in long-term stigmatization with peers and others, even after discharge.

Given the numerous drawbacks associated with residential care for youth, specialized practice treatment options for SM should be expanded to other levels of care. For example, systems of care like the one studied here may wish to look at models of outpatient programs for sexual behavior problems (Silovsky, Niec, Bard & Hecht, 2007). In addition to highly specialized programs for youth where SM is a primary concern, it may be worthwhile for systems of care to develop a brief modularized treatment approach to SM, which can be delivered in conjunction with an evidence based treatment protocol designed for a diagnostic category (e.g., disruptive behavior, trauma). Due to the high risk of iatrogenic environmental effects and the considerable costs of residential treatment, it is strongly recommended systems of care conduct monthly evaluations of a youth's progress within specialized residential programs to ensure a systematic and data driven treatment approach is being taken towards treating a youth's difficulties with SM. This type of oversight is especially important because there is not enough research yet to suggest a "best support" residential treatment program and programs often require youth to spend a specific amount of time in treatment without strong evidence based research to support the required treatment episode length.

Along these same lines, as treatment efficacy studies continue to be published, it may be worthwhile for systems to develop decision-making tools for care coordinators, clinical leads, therapists and stakeholders to guide SM treatment selection, including which practices are developmentally appropriate given client and family characteristics. Recent treatment studies suggest MST may be the best form of treatment for JSO youth with SM (Southam-

Gerow & Prinstein, 2014). MST may be a good treatment option to consider for youth with SM because it provides an effective balance between treatment dosage and least restrictive setting, especially since youth with SM have multiple other problems and are at higher risk for being placed out of home. Additionally due to the stigmatizing nature of SM and the small, but meaningful risk of escalation, systems' administrators might want to consider allowing youth identified as having sexual behavior problems to be eligible for treatment regardless of impairment (i.e., CAFAS score) or court involvement. Greater early intervention efforts may be warranted for youth with SM because they are at greater risk for trauma, abuse and neglect and less restrictive treatment options are limited for these youth as SM behavior persists and/or escalates. Therapists could also be supported in conducting ongoing assessment using standardized measures for SM in routine practice in order to ensure a youth with SM is receiving the appropriate level of care given their response to treatment.

For adjudicated youth, it is recommended that systems of care and juvenile justice courts collaboratively develop a systematic process for gathering and exchanging relevant information about youth and family outcomes. Open lines of communication and information sharing between these two systems will allow each to have a more comprehensive understanding of the etiology of the youth's presenting difficulties, the family's current needs, and help both systems monitor long-term outcomes in multiple areas. Intersystem collaboration and long term outcome monitoring for youth with sexual misconduct is also critical because it helps guide advocacy efforts against sexual offender registry for juveniles (SORNA), and may have the potential to be used as a tool to reduce the time period in which a person is required to be listed on the registry.

Study Considerations and Future Directions

The present study findings are consistent with previous research demonstrating standard treatment for SM youth is diffuse owing to the diversity of clinical presentations in this population (Bonner et al., 2001; Chaffin et al., 2006; Pithers et al., 1998). Furthermore, it

extends the literature by describing treatment and practice profiles of youth with SM at the intensive in-home level of care. This study also adds to the literature by revealing treatment targets and practice patterns at the specialized residential treatment level of care. Several of the most highly endorsed practices were consistent with mental health treatment generally (e.g., rapport building, family engagement, supportive listening), but did not appear to clearly target skills to enhance self-control, insight, and self-coping that may lessen future SM behavior. To the author's knowledge, the current study is the first to describe treatment and practice profiles of youth with SM in usual care.

Despite these contributions, the inferences drawn from this data are necessarily limited by the narrower scope of the study, which did not include examination of treatment outcomes. Youth progress data could help to answer which practices are most effective for helping youth with SM targeted in treatment. Furthermore, therapist characteristics were not accounted for in this study, which limits our understanding of how training background or other provider variables may moderate the treatment and practice patterns observed at the intensive in-home or residential levels of care. Other study limitations important to consider include time effects, MTPS version differences and the low frequency of SM endorsement within treatment episodes. Other markers, in addition to the matching covariates (e.g. SM endorsement rate), could have been used to control for or accommodate the heterogeneity of the sample. The author also acknowledges the risk of false positive errors due to the small sample size used in the cluster analyses. Youth data analyzed for this study spanned a period of 11 years, during which significant changes in local system's policies and procedures occurred (e.g., mandatory submission of MTPS data for all clients, ending of court oversight for the Felix Consent Decree), including implementation of an updated version of the MTPS in 2008. It is difficult to ascertain the impact of system-wide changes on the study dataset. A final consideration for the present study is that all analyses were conducted with samples in which age was pooled; youth were not divided into age-related subgroups. This approach

allowed us to look at treatment as usual for SM across developmental periods rather than focusing on narrow cut-offs (SBP vs. JSO); these cutoffs reflect the legal categorization of SM behavior not necessarily the psychopathology of SM.

Future research could help to overcome several of these limitations. In particular, examining the relationship between treatment practices and treatment responsivity for SM at differing levels of care (e.g., intensive in-home usual care vs. MST) could provide valuable practice-based evidence for possibly efficacious intervention strategies within this population. It would also be important to broaden the outcomes analysis to include additional markers of functioning obtained from secondary sources, such as the legal system (e.g., family court involvement, SM recidivism, new juvenile charges). Future investigators may also want to consider using other matching methods to examine whether this study's results are replicated or consider limiting the covariates used to create a comparable sample to allow for the replication of the heterogeneity seen in SM youth (e.g. not match on impairment).

Additional studies may also examine whether youth with SM cluster into different treatment and practice profiles based on gender, and, or whether therapist variables are predictive of practice selection or treatment responses. Findings from usual care research can help guide the development and testing of evidence based treatments for sexual misconduct by helping program designers understand what therapists are currently doing and how future interventions can be tailored to address gaps in evidence-based practice in community care.

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Appendix A: Monthly Treatment and Progress Summary (MTPS) Form (2005 Version)*

SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY
Child and Adolescent Mental Health Division (CAMHD)

Instructions: Please complete, mail and/or FAX this form by the 5th working day of each month (summarizing the time period of 1st to the last day of the previous month) to your client's Family Guidance Center. The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

Client Name:		CR #:	DOB:
Home School:	Complex:	FGC:	IDEA/504 Status:
Primary Dx:	Level of Care (one per form):		Month/Year of Services:

Service Format (circle any that apply):
Individual Group Parent Family Teacher Other: ________

Service Setting (circle any that apply):
Home School Community Out of Home Clinic/Office Other:

Service Dates:																

Targets Addressed This Month (*number* up to 10):

	Activity Involvement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Academic Achievement		Depressed Mood		Low Self-Esteem		Positive Thinking/ Attitude		Social Skills
	Aggression		Eating, Feeding Problems		Mania		Psychosis		Speech and Language Problems
	Anger		Empathy		Medical Regimen Adherence		Runaway		Substance Use
	Anxiety		Enuresis, Encopresis		Oppositional/ Non-Compliant Behavior		School Involvement		Suicidality
	Assertiveness		Fire Setting		Peer Involvement		School Refusal/Truancy		Traumatic Stress
	Attention Problems		Gender Identity Problems		Peer/Sibling Conflict		Self-Control		Treatment Engagement
	Avoidance		Grief		Personal Hygiene		Self-Injurious Behavior		Willful Misconduct, Delinquency
	Cognitive-Intellectual Functioning		Health Management		Positive Family Functioning		Sexual Misconduct		Other:
	Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness		Other:

Progress Ratings This Month (check appropriate rating for any target numbers endorsed above):

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

*MTPS Instructions and Codebook unavailable for this version

CR # ______________________ (please repeat the number here)

Intervention Strategies Used This Month (check all that apply):

	Activity Scheduling		Eye Movement, Tapping		Marital Therapy		Play Therapy		Stimulus or Antecedent Control
	Assertiveness Training		Family Engagement		Medication/Pharm-acotherapy		Problem Solving		Supportive Listening
	Biofeedback, Neurofeedback		Family Therapy		Mentoring		Psychoeducation, Child		Tangible Rewards
	Catharsis		Free Association		Milieu Therapy		Psychoeducation,Parent		Therapist Praise/Rewards
	Cognitive/Coping		Functional Analysis		Mindfulness		Relationship or Rapport Building		Thought Field Therapy
	Commands/ Limit Setting		Guided Imagery		Modeling		Relaxation		Time Out
	Communication Skills		Hypnosis		Motivational Interviewing		Response Cost		Twelve-step Programming
	Crisis Management		Ignoring or DRO		Natural and Logical Consequences		Response Prevention		Other:
	Directed Play		Insight Building		Parent Coping		Self-Monitoring		Other:
	Educational Support		Interpretation		Parent-Monitoring		Self-Reward/ Self-Praise		Other:
	Emotional Processing		Line of Sight Supervision		Parent Praise		Skill Building		
	Exposure		Maintenance or Relapse Prevention		Peer Modeling or Pairing		Social Skills Training		

Projected End Date: ___________

Medication/Dosage: ___________ **No change** ________ **Change** ________________________________

Comments/Suggestions ***(attach additional sheets if necessary)*:**

Outcome Measures: Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1:) (2:) (3:) (4:) (5:) (6:) (7:) (8:) (Total:)			Date:
CALOCUS (Total):	CALOCUS (Level of Care):		Date:
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested? (Y/N):	School attendance (% of days):		

Provider Agency & Island: _________________________ Clinician Name and ID#: ___________________________________
Provider Signature: ___________________________________ Clinician Signature: ___________________________________
Mail ☐ Fax ☐ to FGC (date): ________ Care Coordinator: ___________________________________ Date FGC Rec'd: ________

Appendix B: Monthly Treatment and Progress Summary (MTPS) Form (2008 Version)

SERVICE PROVIDER MONTHLY TREATMENT & PROGRESS SUMMARY
Child and Adolescent Mental Health Division (CAMHD)

Instructions: Please complete and electronically submit this form to CAMHD by the 5th working day of each month (summarizing the time period of 1st to the last day of the previous month). The information will be used in service review, monitoring, planning and coordination in accordance with CAMHD policies and standards. Mahalo!

Client Name:	CR #:	DOB:
Month/Year of Services:	Eligibility Status:	Level of Care (one per form):
Axis I Primary Diagnosis:	Axis I Secondary Diagnosis:	Axis I Tertiary Diagnosis:
Axis II Primary Diagnosis:	Axis II Secondary Diagnosis:	

Service Format (circle all that apply):
Individual Group Parent Family Teacher Other: _________

Service Setting (circle all that apply):
Home School Community Out of Home Clinic/Office Other: _________

Service Dates:																

Targets Addressed This Month (*number* up to 10):

	Activity Involvement		Community Involvement		Hyperactivity		Positive Peer Interaction		Shyness
	Academic Achievement		Contentment, Enjoyment, Happiness		Learning Disorder, Underachievement		Phobia/Fears		Sleep Disturbance
	Adaptive Behavior/Living Skills		Depressed Mood		Low Self-Esteem		Positive Thinking/ Attitude		Social Skills
	Adjustment to Change		Eating, Feeding Problems		Mania		Pregnancy Education/ Adjustment		Speech and Language Problems
	Aggression		Empathy		Medical Regimen Adherence		Psychosis		Substance Use
	Anger		Enuresis, Encopresis		Occupational Functioning/Stress		Runaway		Suicidality
	Anxiety		Fire Setting		Oppositional/ Non-Compliant Behavior		School Involvement		Traumatic Stress
	Assertiveness		Gender Identity Problems		Peer Involvement		School Refusal/Truancy		Treatment Engagement
	Attention Problems		Grief		Peer/Sibling Conflict		Self-Control		Willful Misconduct, Delinquency
	Avoidance		Health Management		Personal Hygiene		Self-Injurious Behavior		Other:
	Cognitive-Intellectual Functioning		Housing/Living Situation		Positive Family Functioning		Sexual Misconduct		Other:

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CR # ____________________________ (please repeat the number here)

Progress Ratings This Month (check appropriate rating for any target numbers endorsed as targets):

#	Deterioration < 0%	No Significant Changes 0%-10%	Minimal Improvement 11%-30%	Some Improvement 31%-50%	Moderate Improvement 51%-70%	Significant Improvement 71%-90%	Complete Improvement 91%-100%	Date (If Complete)
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Intervention Strategies Used This Month (check all that apply):

	Activity Scheduling		Emotional Processing		Line of Sight Supervision		Personal Safety Skills		Stimulus or Antecedent Control
	Assertiveness Training		Exposure		Maintenance or Relapse Prevention		Physical Exercise		Supportive Listening
	Attending		Eye Movement, Tapping		Marital Therapy		Play Therapy		Tangible Rewards
	Behavioral Contracting		Family Engagement		Medication/ Pharmacotherapy		Problem Solving		Therapist Praise/Rewards
	Biofeedback, Neurofeedback		Family Therapy		Mentoring		Psychoeducation, Child		Thought Field Therapy
	Care Coordination		Free Association		Milieu Therapy		Psychoeducation, Parent		Time Out
	Catharsis		Functional Analysis		Mindfulness		Relationship or Rapport Building		Twelve-Step Program
	Cognitive		Goal Setting		Modeling		Relaxation		Other:
	Commands		Guided Imagery		Motivational Interviewing		Response Cost		Other:
	Communication Skills		Hypnosis		Natural and Logical Consequences		Response Prevention		Other:
	Crisis Management		Ignoring/Differential Reinforcement of Other Behavior		Parent Coping		Self-Monitoring		
	Cultural Training		Individual Therapy for Caregiver		Parent/Teacher Monitoring		Self-Reward/ Self-Praise		
	Discrete Trial Training		Insight Building		Parent/Teacher Praise		Skill Building		
	Educational Support		Interpretation		Peer Pairing		Social Skills Training		

CR # ____________________________ (please repeat the number here)

Psychiatric Medications (List All)	Total Daily Dose	Dose Schedule	Check if Change	Description of Change
____________________	________	__________	☐	____________________
____________________	________	__________	☐	____________________
____________________	________	__________	☐	____________________
____________________	________	__________	☐	____________________
____________________	________	__________	☐	____________________

Projected Discharge Date: __________ ☐ **Check if Discharged During Current Month**

IF YOUTH WAS DISCHARGED THIS MONTH, PLEASE COMPLETE ITEMS A & B:

A. Discharge Living Situation (check one):

☐ Home ☐ Foster Home ☐ Group Care ☐ Residential Treatment
☐ Institution/Hospital ☐ Jail/Correctional Facility ☐ Homeless/Shelter ☐ Other:______________

B. Reason(s) for Discharge (check all that apply):

☐ Success/Goals Met ☐ Insufficient Progress ☐ Family Relocation
☐ Runaway/Elopement ☐ Refuse/Withdraw ☐ Eligibility Change ☐ Other:______________

Outcome Measures: Optional. If you have any of the following data, please report the most recent scores:

CAFAS (8 Scales): (1-School:) (2-Home:) (3-Community:) (4-Behavior Toward Others:) (5-Moods/Emotions:) (6-Self-Harm:) (7-Substance:) (8-Thinking:) (Total:)			Date:
CASII/CALOCUS (Total):	CASII/CALOCUS (Level of Care):		Date:
CBCL (Total Problems T):	CBCL (Internalizing T):	CBCL (Externalizing T):	Date:
YSR (Total Problems T):	YSR (Internalizing T):	YSR (Externalizing T):	Date:
TRF (Total Problems T):	TRF (Internalizing T):	TRF (Externalizing T):	Date:
Arrested During Month? (Y/N):	School attendance (% of days):		

Comments/Suggestions (*attach additional sheets if necessary*):

Provider Agency & Island: ____________________	Clinician Name and ID#:____________________
Provider Supervisor Signature: ____________________	Clinician Signature: ____________________
Submitted to CAMHD (date): ____________________	Care Coordinator: ____________________

Appendix C: Monthly Treatment and Progress Summary (MTPS) Instructions and Codebook (2008 Version)

DOH Child and Adolescent Mental Health Division
Instructions and Codebook for Provider Monthly Treatment and Progress Summary
Effective July 1, 2008

The instructions and codebook are to be used in conjunction with the CAMHD Service Provider Monthly Treatment and Progress Summary form. This codebook defines the numerous terms and possible responses necessary to accurately complete the form. For questions regarding these definitions or the use of the Monthly Treatment and Progress Summary, please contact the Clinical Services Office at 733-9349.

Instructions

Please complete and electronically submit to CAMHD the Monthly Treatment and Progress Summary by the 5th working day of the month. The summary should pertain to the previous month's services. This form should be completed by the clinician who is most familiar with the current status of the youth and family and with the services provided during the month. When necessary, the responding clinician should gather information from other provider team members to assure the most accurate description possible. Once completed by the clinician, the form should be reviewed and signed by a qualified supervisor.

At the top section, please write the Client Name, CR Number, Date of Birth (DOB), Home School, School Complex, Eligibility Status [i.e., Educationally Supportive (IDEA), Support for Emotional and Behavioral Development (SEBD), Mental Health Only], Axis I Primary Diagnosis, Axis I Secondary Diagnosis, Axis I Tertiary Diagnosis, Axis II Primary Diagnosis, Axis II Secondary Diagnosis, Level of Care, and Month/Year of Services. If some Diagnosis fields do not apply to the youth, please leave those fields blank. The Month/Year of Services refers to the month in which the service was provided, not the date the Monthly Provider Summary was completed. For example, if the report is submitted in the first week of June, the Month/Year of Services would read "May," because the services were delivered in May. For youth receiving more than one level of care during the month, please complete a separate form for each.

Under Service Format, please indicate whether services were delivered in the following manner (more than one format can be selected):

- Individual –Working with youth directly
- Group –Working with youth along with other youths receiving services
- Parent –Working directly with parents or caregivers, with youth not present
- Family – Working with parents or caregivers and youth together. Can include other family members
- Teacher – Working with a teacher directly
- Other – Another format not specified above; please write description

Under Service Setting, please note whether services were delivered in the following locations (more than one setting can be selected):

Home –Working with youth or family members in the youth's home
School –Working with youth or professionals in the youth's educational setting, other than in the context of an IEP/MP meeting
Community – Working with youth or others in the youth's community/neighborhood
Out of Home – Working with the youth or family in a residential facility
Clinic/Office – Working with the youth or family in a clinical office
Other – Another setting not specified above; please write description

For Service Dates, please provide the dates for each service provided during that month. If additional space is required, please continue writing dates in the area below the boxes provided. If the service was provided out of home (i.e., continuously), please provide start and end dates for that month's services and put the word "to" in between in one of the boxes.

Targets

Targets are the strengths and needs being addressed as part of the mental health services for that youth.

When completing the Targets Addressed This Month, please put numbers (1, 2, 3…) rather than checkmarks (X, ✔) to the left of each target addressed. This is so that progress ratings in the next section can be attached to each target. For example, if "Academic Achievement" was targeted, place a "1" in the box to the left of that target on the form. Numbers do not need to reflect any particular order. If more than 10 targets were addressed during the month, please provide only those you feel are the 10 most important. If a target was addressed for which there is no option, please number the "other" box, and write in the target.

The list of treatment targets is intended to provide a summary of strengths and needs that are commonly targeted for change during mental health service provision. These problem areas are NOT diagnostic descriptions and the primary targets for treatment may change over time for a particular youth. For example, when treating a youth with an eating disorder, treatment may target eating/feeding behavior at one point, but target medical regimen adherence or positive family functioning on other occasions. These treatment targets are for progress summary purposes and should NOT replace the detailed specification of goals and objectives as part of the treatment planning process.

Definitions of Targets

1. **Academic Achievement** – Issues related to general level or quality of achievement in an educational or academic context. This commonly includes performance in coursework, and excludes cognitive-intellectual ability/capacity issues (#11) and specific challenges in learning or achievement (#24)
2. **Activity Involvement** – Issues related to general engagement and participation in activities. Only code here those activities that are not better described by the particular activity classes of school involvement (#40), peer involvement (#30), or community involvement (#12).
3. **Adaptive Behavior/Living Skills** – Skills related to independent living, social functioning, financial management, and self-sufficiency that are not better captured under other codes

such as personal hygiene (#33), self-management/self-control (#43), social skills (#47), housing/living situation (#22), or occupational functioning/stress (#28).

4. **Adjustment to Change** – Issues related to a youth's global response to a life transition or specific challenge (e.g., change of school, living situation, treatment transition or discharge, etc.).
5. **Aggression** – Verbal and/or physical aggression, or threat thereof, that results in intimidation, physical harm, or property destruction.
6. **Anger –** Emotional experience or expression of agitation or destructiveness directed at a particular object or individual. Common physical feelings include accelerated heartbeat, muscle tension, quicker breathing, and feeling hot.
7. **Anxiety** – A general uneasiness that can be characterized by irrational fears, panic, tension, physical symptoms, excessive anxiety, worry, or fear.
8. **Assertiveness** – The skills or effectiveness of clearly communicating one's wishes. For example, the effectiveness with which a child refuses unreasonable requests from others, expresses his/her rights in a non-aggressive manner, and/or negotiates to get what s/he wants in their relationships with others.
9. **Attention Problems** – Described by short attention span, difficulty sustaining attention on a consistent basis, and susceptible to distraction by extraneous stimuli.
10. **Avoidance** – Behaviors aimed at escaping or preventing exposure to a particular situation or stimulus.
11. **Cognitive-Intellectual Functioning** – Issues related to cognitive-intellectual ability/capacity and use of those abilities for positive adaptation to the environment. This includes efforts to increase IQ, memory capacity, or abstract problem-solving ability.
12. **Community Involvement** – Issues related to the amount of involvement in specific community activities within the child's day.
13. **Contentment/Enjoyment/Happiness –** Refers to issues involving the experience and expression of satisfaction, joy, pleasure, and optimism for the future.
14. **Depressed Mood** – Behaviors that can be described as persistent sadness, anxiety, or "empty" mood, feelings of hopelessness, guilt, worthlessness, helplessness, decreased energy, fatigue, etc.
15. **Eating/Feeding Problems**– Knowledge or behaviors involved with the ingestion or consumption of food. May include nutritional awareness, food choice, feeding mechanics (e.g., swallowing, gagging, etc.), and social factors relating with eating situations.
16. **Empathy** – Identifications with and understanding of another person's situation, feelings, and motives.
17. **Enuresis/Encopresis** – Enuresis refers to the repeated pattern of voluntarily or involuntarily passing urine at inappropriate places during the day or at night in bed or clothes. Encopresis refers to a repeated pattern of voluntarily or involuntarily passing feces in inappropriate places.
18. **Fire Setting** – Intentionally igniting fires.
19. **Gender Identity Problems –** Issues related with a youth's self-concept or self-understanding involving gender roles and social behaviors in relation to their biological sex. This does not address self-concept issues involving sexual orientation, which would be coded as "other."
20. **Grief** – Feelings associated with a loss of contact with a significant person in the youth's environment (e.g., parent, guardian, friend, etc.).

21. **Health Management** – Issues related to the improvement or management of one's health, inclusive of both physical illness and fitness. In addition to dealing with the general development of health-oriented behavior and management of health conditions, this target can also focus on exercise or lack of exercise.
22. **Housing/Living Situation** – Refers to finding or stabilizing an appropriate living situation for a youth.
23. **Hyperactivity** – Can be described by fidgeting, squirming in seat, inability to remain seated, talking excessively, difficulty engaging in leisure activities quietly, etc.
24. **Learning Disorder, Underachievement** – Refers to specific challenges with learning or educational performance that are not better accounted for by cognitive-intellectual functioning (#11) or general academic achievement (#1).
25. **Low Self-Esteem** – An inability to identify or accept his/her positive traits or talents, and accept compliments. Verbalization of self-disparaging remarks and viewing him or herself in a negative manner.
26. **Mania** – An inflated self-perception that can be manifested by loud, overly friendly social style that oversteps social boundaries, and high energy and restlessness with a reduced need for sleep.
27. **Medical Regimen Adherence** – Knowledge, attitudes, and behaviors related to regular implementation procedures prescribed by a health care professional. Commonly include lifestyle behaviors (e.g., exercise, nutrition), taking medication, or self-administration of routine assessments (e.g., taking blood samples in a diabetic regimen).
28. **Occupational Functioning/Stress** – Issues related to career interests, seeking employment, obtaining work permits, job performance, or managing job stress or strain that are not better characterized under other targets (e.g., anxiety).
29. **Oppositional/Non-Compliant Behavior** – Behaviors that can be described as refusal to follow adult requests or demands or established rules and procedures (e.g., classroom rules, school rules, etc.).
30. **Peer Involvement** – A greater involvement in activities with peers. Activities could range from academic tasks to recreational activities while involvement could range from working next to a peer to initiating an activity with a peer.
31. **Peer/Sibling Conflict** – Peer and/or sibling relationships that are characterized by fighting, bullying, defiance, revenge, taunting, incessant teasing and other inappropriate behaviors.
32. **Phobia/Fears** – Irrational dread, fear, and avoidance of an object, situation, or activity.
33. **Personal Hygiene** – Challenges related to self-care and grooming.
34. **Positive Family Functioning** – Issues related with healthy communication, problem-solving, shared pleasurable activities, physical and emotional support, etc. in the context of an interaction among multiple persons in a family relation, broadly defined.
35. **Positive Peer Interaction** – Social interaction and communication with peers that are pro-social and appropriate. This differs from peer involvement (#30) in that it focuses on interactional behavior, styles, and intentions, whereas peer involvement targets actual engagement in activities with peers regardless of interactional processes.
36. **Positive Thinking/Attitude** – This target involves clear, healthy, or optimistic thinking, and involves the absence of distortions or cognitive bias that might lead to maladaptive behavior.
37. **Pregnancy Education/Adjustment** – Issues related to helping a pregnant youth prepare and adjust to parenthood.

38. **Psychosis** – Issues related to atypical thought content (delusions of grandeur, persecution, reference, influence, control, somatic sensations), and/or auditory or visual hallucinations.
39. **Runaway** – Running away from home or current residential placement for a day or more.
40. **School Involvement** – Detailed description of amount of involvement in specific school activities within the child's scheduled school day.
41. **School Refusal/Truancy** – Reluctance or refusal to attend school without adult permission for the absence. May be associated with school phobia or fear manifested by frequent somatic complaints associated with attending school or in anticipation of school attendance, or willful avoidance of school in the interest of pursuing other activities.
42. **Self-Injurious Behavior** – Acts of harm, violence, or aggression directed at oneself.
43. **Self-Management/Self-Control** – Issues related to management, regulation, and monitoring of one's own behavior.
44. **Sexual Misconduct** – Issues related with sexual conduct that is defined as inappropriate by the youth's social environment or that includes intrusion upon or violation of the rights of others.
45. **Shyness** – Social isolation and/or excessive involvement in isolated activities. Extremely limited or no close friendships outside the immediate family members. Excessive shrinking or avoidance of contact with unfamiliar people.
46. **Sleep Disturbance** – Difficulty getting to or maintaining sleep.
47. **Social Skills** – Skills for managing interpersonal interactions successfully. Can include body language, verbal tone, assertiveness, and listening skills, among other areas.
48. **Speech and Language Problems** – Expressive and/or receptive language abilities substantially below expected levels as measured by standardized tests.
49. **Substance Abuse/Substance Use** – Issues related to the use or misuse of a common, prescribed, or illicit substances for altering mental or emotional experience or functioning.
50. **Suicidality** – Issues related to recurrent thoughts, gestures, or attempts to end one's life.
51. **Traumatic Stress** – Issues related to the experience or witnessing of life events involving actual or threatened death or serious injury to which the youth responded with intense fear, helplessness, or horror.
52. **Treatment Engagement –** The degree to which a family or youth is interested and optimistic about an intervention or plan, such that they act willfully to participate and work toward the success of the plan.
53. **Willful Misconduct/Delinquency** – Persistent failure to comply with rules or expectations in the home, school, or community. Excessive fighting, intimidation of others, cruelty or violence toward people or animals, and/or destruction of property.

Progress Ratings

Please provide a single progress rating for each target selected above (up to 10). Numbers 1 through 10 in the left column refer to the targets selected in the Targets Addressed This Month section above. For example, had you selected "Academic Achievement" above, there would be a "1" in the box to the left of that target on that section. Then, the first row of the Progress Ratings, labeled "1," is where you would note the progress ratings associated with academic achievement.

Please place a mark (X, ✔) in the column corresponding to your subjective rating of progress associated with this target. When possible, your overall subjective ratings should be informed by

a review of objective measures such as any available and relevant questionnaires or behavioral observation data. For example, if a youth receives a T-score of 70 during an intake assessment and the treatment goal is to reduce this score to 60, then if a youth receives a T-score of 65 during a monthly assessment, than 50% progress may be reported [i.e., 70 – 65 / 70 – 60 = 5 / 10 = 50%]. Or if a youth gets into 10 fights per week initially and the treatment goal is to reduce fighting to 0 fights per week, then during a month in which the youth was fighting only 3 times per week, that would reflect 70% progress [i.e., 10 – 3 / 10 – 0 = 7 / 10 = 70%].

Anchors refer to changes from baseline or beginning of services for that target. Thus, a youth who had reached 90% of an initial goal would receive a rating of "significant improvement." If that progress were to decline to 70% in the following month, the youth would then get a rating of "moderate improvement" for that target for that month (not "deterioration"). "Deterioration" refers to when a target gets worse from the time it was initially addressed. If there is a break in addressing a specific target (e.g., a target is addressed, then not addressed for a month, then addressed again in a later month), use the initial baseline from the first time as the point of comparison. Only when there is a break in the complete episode of care (i.e., discharge followed by later admission), should that reset the baseline for a given target.

If a goal is reached (improvement is complete), the provider may choose to note the date in the rightmost column. This implies that the target is no longer being addressed. Targets that are not complete should be rated again on the following month's summary form.

Intervention Strategies

Please place a mark (X, ✔) to the left of any intervention strategies used during the past month. There is no limit to how many may be checked. If strategies were employed that are not in the following list of definitions, please mark the "other" box and write in the strategy used.

Definitions of Intervention Strategies

1. **Activity Scheduling** – The assignment or request that a child participate in specific activities outside of therapy time, with the goal of promoting or maintaining involvement in satisfying and enriching experiences.
2. **Assertiveness Training** – Exercises or techniques designed to promote the child's ability to be assertive with others, usually involving rehearsal of assertive interactions.
3. **Attending** – Exercises involving the youth and caregiver playing together in a specific manner to facilitate their improved verbal communication and nonverbal interaction. Can involve the caregiver's imitation and participation in the youth's activity, as well as parent-directed play (previously called "Directed Play").
4. **Behavioral Contracting** – Development of a formal agreement specifying rules, consequences, and a commitment by the youth and relevant others to honor the content of the agreement.
5. **Biofeedback/ Neurofeedback** – Strategies to provide information about physiological activity that is typically below the threshold of perception, often involving the use of specialized equipment.

6. **Care Coordination** – Coordinating among the youth's service providers to ensure effective communication, receipt of appropriate services, adequate housing, etc.
7. **Catharsis** – Strategies designed to bring about the release of intense emotions, with the intent to develop mastery of affect and conflict.
8. **Cognitive** – Any techniques designed to alter interpretation of events through examination of the child's reported thoughts, typically through the generation and rehearsal of alternative counter-statements. This can sometimes be accompanied by exercises designed to comparatively test the validity of the original thoughts and the alternative thoughts through the gathering or review of relevant information.
9. **Commands** – Training for caregivers in how to give directions and commands in such a manner as to increase the likelihood of child compliance.
10. **Communication Skills** – Training for youth or caregivers in how to communicate more effectively with others to increase consistency and minimize stress. Can include a variety of specific communication strategies (e.g., active listening, "I" statements).
11. **Crisis Management** – Immediate problem solving approaches to handle urgent or dangerous events. This might involve defusing an escalating pattern of behavior and emotions either in person or by telephone, and is typically accompanied by debriefing and follow-up planning.
12. **Cultural Training** – Education or interaction with culturally important values, rituals, or sites with no specific practices identified.
13. **Discrete Trial Training** – A method of teaching involving breaking a task into many small steps and rehearsing these steps repeatedly with prompts and a high rate of reinforcement.
14. **Educational Support** – Exercises designed to assist the child with specific academic problems, such as homework or study skills. This includes tutoring.
15. **Emotional Processing** – A program based on an information processing model of emotion that requires activation of emotional memories in conjunction with new and incompatible information about those memories.
16. **Exposure** – Techniques or exercises that involve direct or imagined experience with a target stimulus, whether performed gradually or suddenly, and with or without the therapist's elaboration or intensification of the meaning of the stimulus.
17. **Eye Movement/ Tapping** – A method in which the youth is guided through a procedure to access and resolve troubling experiences and emotions, while being exposed to a therapeutic visual or tactile stimulus designed to facilitate bilateral brain activity.
18. **Family Engagement** – The use of skills and strategies to facilitate family or child's positive interest in participation in an intervention.
19. **Family Therapy** – A set of approaches designed to shift patterns of relationships and interactions within a family, typically involving interaction and exercises with the youth, the caregivers, and sometimes siblings.
20. **Free Association** – Technique for probing the unconscious in which a person recites a running commentary of thoughts and feelings as they occur.
21. **Functional Analysis** – Arrangement of antecedents and consequences based on a functional understanding of a youth's behavior. This goes beyond straightforward application of other behavioral techniques.
22. **Goal Setting** – Setting specific goals and developing commitment from youth or family to attempt to achieve those goals (e.g., academic, career, etc.).

23. **Guided Imagery** – Visualization or guided imaginal techniques for the purpose of mental rehearsal of successful performance. Guided imagery for the purpose of physical relaxation (e.g., picturing calm scenery) is not coded here, but rather coded under relaxation (#50).
24. **Hypnosis** – The induction of a trance-like mental state achieved through suggestion.
25. **Ignoring/Differential Reinforcement of Other Behavior** – The training of parents or others involved in the social ecology of the child to selectively ignore mild target behaviors and selectively attend to alternative behaviors.
26. **Individual Therapy for Caregiver** – Any therapy designed directly to target individual (non-dyadic) psychopathology in one or more of the youth's caregivers. If the therapy for caregivers involves marital therapy (#31) or communication skills (#10) those are not coded here, unless there are additional services for individual caregiver psychopathology, in which case all that apply should be coded.
27. **Insight Building** – Activity designed to help a youth achieve greater self-understanding.
28. **Interpretation** – Reflective discussion or listening exercises with the child designed to yield therapeutic interpretations. This does not involve targeting specific thoughts and their alternatives, which would be coded as cognitive/coping.
29. **Line of Sight Supervision** – Direct observation of a youth for the purpose of assuring safe and appropriate behavior.
30. **Maintenance/Relapse Prevention** – Exercises and training designed to consolidate skills already developed and to anticipate future challenges, with the overall goal to minimize the chance that gains will be lost in the future
31. **Marital Therapy** – Techniques used to improve the quality of the relationship between caregivers.
32. **Medication/ Pharmacotherapy** – Any use of psychotropic medication to manage emotional, behavioral, or psychiatric symptoms.
33. **Mentoring** – Pairing with a more senior and experienced individual who serves as a positive role model for the identified youth.
34. **Milieu Therapy** – A therapeutic approach in residential settings that involves making the environment itself part of the therapeutic program. Often involves a system of privileges and restrictions such as a token or point system.
35. **Mindfulness** – Exercises designed to facilitate present-focused, non-evaluative observation of experiences as they occur, with a strong emphasis of being "in the moment." This can involve the youth's conscious observation of feelings, thoughts, or situations.
36. **Modeling** – Demonstration of a desired behavior by a therapist, confederates, peers, or other actors to promote the imitation and subsequent performance of that behavior by the identified youth.
37. **Motivational Interviewing** – Exercises designed to increase readiness to participate in additional therapeutic activity or programs. These can involve cost-benefit analysis, persuasion, or a variety of other approaches.
38. **Natural and Logical Consequences** – Training for parents or teachers in (a) allowing youth to experience the negative consequences of poor decisions or unwanted behaviors, or (b) delivering consequences in a manner that is appropriate for the behavior performed by the youth.

39. **Parent Coping** – Exercises or strategies designed to enhance caregivers' ability to deal with stressful situations, inclusive of formal interventions targeting one or more caregiver.
40. **Parent/Teacher Monitoring** – The repeated measurement of some target index by the parent, teacher, or other adult involved in the child's social ecology.
41. **Parent/Teacher Praise** – The training of parents, teachers, or other adults involved in the social ecology of the child in the administration of social rewards to promote desired behaviors. This can involve praise, encouragement, affection, or physical proximity.
42. **Peer Pairing** – Pairing with another youth of same or similar age to allow for reciprocal learning or skills practice.
43. **Personal Safety Skills** – Training for the youth in how to maintain personal safety of one's physical self. This can include education about attending to one's sense of danger, body ownership issues (e.g., "good touch-bad touch"), risks involved with keeping secrets, how to ask for help when feeling unsafe, and identification of other high-risk situations for abuse.
44. **Physical Exercise –** The engagement of the youth in energetic physical movements to promote strength or endurance or both. Examples can include running, swimming, weight-lifting, karate, soccer, etc. Note that when the focus of the physical exercise is also to produce talents or competence and not just physical activity and conditioning, the code for "Skill Building" (#55) can also be applied.
45. **Play Therapy** – The use of play as a primary strategy in therapeutic activities. This may include the use of play as a strategy for clinical interpretation. Different from Attending (#3), which involves a specific focus on modifying parent-child communication. This is also different from play designed specifically to build relationship quality (#49).
46. **Problem Solving** – Techniques, discussions, or activities designed to bring about solutions to targeted problems, usually with the intention of imparting a skill for how to approach and solve future problems in a similar manner.
47. **Psychoeducational-Child** – The formal review of information with the child about the development of a problem and its relation to a proposed intervention.
48. **Psychoeducational-Parent** – The formal review of information with the caregiver(s) about the development of the child's problem and its relation to a proposed intervention. This often involves an emphasis on the caregiver's role in either or both.
49. **Relationship/Rapport Building** – Strategies in which the immediate aim is to increase the quality of the relationship between the youth and the therapist. Can include play, talking, games, or other activities.
50. **Relaxation** – Techniques or exercises designed to induce physiological calming, including muscle relaxation, breathing exercises, meditation, and similar activities. Guided imagery exclusively for the purpose of physical relaxation is also coded here.
51. **Response Cost** – Training parents or teachers how to use a point or token system in which negative behaviors result in the loss of points or tokens for the youth.
52. **Response Prevention** – Explicit prevention of a maladaptive behavior that typically occurs habitually or in response to emotional or physical discomfort.
53. **Self-Monitoring** – The repeated measurement of some target index by the child.
54. **Self-Reward/Self-Praise** – Techniques designed to encourage the youth to self-administer positive consequences contingent on performance of target behaviors.

55. **Skill Building** – The practice or assignment to practice or participate in activities with the intention of building and promoting talents and competencies.
56. **Social Skills Training** – Providing information and feedback to improve interpersonal verbal and non-verbal functioning, which may include direct rehearsal of the skills. If this is paired with peer pairing (#42), that should be coded as well.
57. **Stimulus/Antecedent Control** – Strategies to identify specific triggers for problem behaviors and to alter or eliminate those triggers in order to reduce or eliminate the behavior.
58. **Supportive Listening** – Reflective discussion with the child designed to demonstrate warmth, empathy, and positive regard, without suggesting solutions or alternative interpretations.
59. **Tangible Rewards** – The training of parents or others involved in the social ecology of the child in the administration of tangible rewards to promote desired behaviors. This can involve tokens, charts, or record keeping, in addition to first-order reinforcers.
60. **Therapist Praise/Rewards** – The administration of tangible (i.e., rewards) or social (e.g., praise) reinforcers by the therapist.
61. **Thought Field Therapy** – Techniques involving the tapping of various parts of the body in particular sequences or "algorithms" in order to correct unbalanced energies, known as thought fields.
62. **Time Out** – The training of or the direct use of a technique involving removing the youth from all reinforcement for a specified period of time following the performance of an identified, unwanted behavior.
63. **Twelve-Step Program** – Any programs that involve the twelve-step model for gaining control over problem behavior, most typically in the context of alcohol and substance use, but can be used to target other behaviors as well.

For medication interventions please list each psychiatric medication the youth is taking (e.g., Adderall ER), describe the prescribed total daily dose for each medication (e.g., 30 mg,), identify the prescribed dose schedule (e.g., 2x/week, 3x/day, 15-10-5/day, etc.), place a check mark in the appropriate box if there was a change in the medication or regimen during the reporting month, and provide a description of the change on the line to the right (e.g., new medication, daily dosage change from 10 to 30 mg, change in dose schedule from 5-5/day to 10-10-10/day, etc.).

For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.

For Discharged During Month please indicate if the youth was discharged from your program during the reporting month. If the youth was discharged, please indicate the Living Situation that the youth was entering upon discharge and the Reason for Discharge. For Projected End Date, please indicate the expected date for termination of the services for which this form was completed.

Living Situation upon Discharge

Please place a mark (X, ✔) to the left of statement that best describes the type of living environment in which the youth was expected to reside at the time of discharge. Please select only one option. If the youth's living situation at discharge is not well described by the following list of definitions, please mark the "other" box and write in the youth's living situation.

1. **Home** - Youth to live in a house, apartment, trailer, hotel, dorm, barrack, and/or single room occupancy. This excludes situations better characterized as foster homes.
2. **Foster Home**-Youth to reside in a foster home or therapeutic foster home. A foster home is a home that is licensed to provide foster care to children, adolescents, and/or adults.
3. **Group Care**-Youth to reside in a group care facility. This level of care may include a group home, therapeutic group home, or board and care. This excludes community-based residential and hospital-based residential care
4. **Residential Treatment**- Youth to reside in a community-based residential treatment, rehabilitation center, or other residential treatment that is not better characterized as a group home or institution/hospital facility. An organization, not licensed as a psychiatric hospital, whose primary purpose is the provision of individually planned programs of mental health treatment services in conjunction with residential care for children and youth. The services are provided in facilities that are certified by state or federal agencies or through a national accrediting agency.
5. **Institutional/Hospital**-Youth resides in an institutional care or hospital-based residential care facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a skilled nursing/intermediate care facility, nursing homes, institutes of mental disease, inpatient psychiatric hospital, psychiatric health facility, Veterans Affairs hospital, or state hospital.
6. **Jail/Correctional Facility**-Youth resides in a Jail and/or Correctional facility with care provided on a 24 hour, 7 day a week basis. This level of care may include a jail, correctional facility, detention centers, prison, youth authority facility, juvenile hall, boot camp, or boys ranch.
7. **Homeless/Shelter**- A youth is considered homeless if s/he lacks a fixed, regular, and adequate nighttime residence or his/her primary nighttime residency is a supervised publicly or privately operated shelter designed to provide temporary living accommodations, an institution that provides a temporary residence for individuals intended to be institutionalized, or a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings (e.g., on the street). Youth who were discharged due to extended runaway or elopement episode should be recorded in this category.

Reason(s) for Discharge

Please place a mark (X, ✔) to the left of each statement that describes the reasons for discharging youth from the program during the reporting month. There is no limit to how many may be checked. If the discharge reason is not well characterized by the following list of definitions, please mark the "other" box and write in the reason.

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1. **Success/Goals Met**-Youth was clinically discharged due to sufficient treatment progress (e.g., symptoms reduced, functioning improved), treatment goals were met, youth was evaluated and services were determined unnecessary, services were completed, or youth was moving to a less restrictive and intensive level of care.
2. **Insufficient Progress**-Youth was discharged from service without showing sufficient treatment progress to be judged as clinically successful (i.e., little symptom reduction, improvement in functioning, or goal attainment was achieved).
3. **Family Relocation**-Youth was discharge because the youth and family moved out of state or out of the service area.
4. **Runaway/Elopement**-Youth was discharged in association with an extended period of unavailability for treatment because the youth had runaway from home or eloped from the program.
5. **Refuse/Withdraw**-Youth was discharged due to parental refusal, non-participation in treatment, lack of consent, or other indication that client withdrew from services against professional advice.
6. **Eligibility Change**-Youth was discharged in association with a change in eligibility for services, such as a termination of a court order or commitment, aging out of child and adolescent services, loss of Medicaid insurance, etc.

Please provide any other Comments or Suggestions for the youth's care coordinator you think would be important.

If scores are available on any of the Outcome Measures recommended in the Interagency Practice Guidelines, please provide them along with dates in the optional section provided. Include whether or not youth was arrested during the past month, and an estimate of the percentage of school days that were attended. If school is attended in a residential setting, this counts toward the percentage of days attended.

For the CAFAS, the numbered spaces refer to the following scales: 1-School, 2-Home, 3-Community, 4-Behavior Towards Others, 5-Moods/Emotions, 6-Self-Harm, 7-Substance, 8-Thinking. "Total" refers to the sum of these 8 scales.

Please write the name of the agency including location (e.g., Maui, Big Island) and name of the clinicians (along with CAMHMIS ID#) and provider, along with appropriate signatures of the clinician completing the form and the qualified supervisor. Note the date that the form was submitted electronically to CAMHD and provide name of Care Coordinator.

Appendix D: Comparison of Rates of Primary or Any Diagnostic Categories for Youth without (n=3885) and with (n=479) Sexual Misconduct Target, Ordered by N-size for Primary Diagnosis

Diagnostic Group	Primary			Any†		
	With	Without	x^2	With	Without	x^2
Disruptive Behavior	141 (29.4%)	1253 (32.3%)	1.55	260 (54.3%)	2091 (53.8%)	0.04
Depressive Mood	64 (13.4%)	652 (16.8%)	3.64	111 (23.2%)	1064 (27.4%)	3.85
Attention	90 (18.8%)	642 (16.5%)	1.56	183 (38.2%)	1288 (33.2%)	4.87*
Adjustment	22 (4.6%)	279 (7.2%)	4.45*	43 (9.0%)	435 (11.2%)	2.15
Bipolar	31 (6.5%)	261 (6.7%)	0.11	46 (9.6%)	392 (10.1%)	0.11
Traumatic Stress	51 (10.6%)	211 (5.4%)	20.56***	99 (20.7%)	381 (9.8%)	51.39***
Anxiety (w/o PTSD)	14 (2.9%)	164 (4.2%)	1.84	37 (7.7%)	389 (10.0%)	2.54
Substance Abuse	12 (2.5%)	147 (3.8%)	1.99	87 (18.2%)	821 (21.1%)	2.83
Miscellaneous	31 (6.5%)	134 (3.4%)	10.71**	115 (24.0%)	671 (17.3%)	13.11***
Psychotic Spectrum	6 (1.3%)	67 (1.7%)	0.58	8 (1.7%)	78 (2.0%)	0.25
Pervasive Dev.	1 (0.2%)	24 (0.6%)	1.25	2 (0.4%)	41 (1.1%)	1.78
Sexual Disorder	4 (0.8%)	4 (0.1%)	12.49***	7 (1.5%)	7 (0.2%)	21.89***
V code Abuse	11 (2.3%)	3 (0.1%)	65.68***	32 (6.7%)	22 (0.6%)	130.45***
Intellectual Disability	-	-		1 (0.2%)	3 (0.1%)	0.81
No Diagnosis	2 (0.4%)	56 (1.4%)	3.41			
Multiple Diagnoses	374 (78.1%)	2782 (71.6%)	8.92**			

* $p < .05$, ** $p < .01$, *** $p < .001$, †Due to co-occurring disorders, percentages for primary diagnosis data exceed 100%

Appendix E: Comparison of Client and Clinical Characteristics for Youth without (n=469) and with (n=142) Sexual Misconduct Target in a Matched Sample at the Intensive In-Home Level of Care

Diagnostic Group	Primary			Any[†]		
	With	Without	x^2	With	Without	x^2
Disruptive Behavior	36 (25.4%)	149 (31.8%)	2.13	73 (51.4%)	271 (57.8%)	1.80
Attention	28 (19.7%)	84 (17.9%)	0.24	59 (41.5%)	163 (34.8%)	2.18
Anxiety	2 (1.4%)	25 (5.3%)	3.97*	9 (6.3%)	77 (16.4%)	9.16**
Depressive Mood	27 (19.0%)	92 (19.6%)	0.03	44 (31.0%)	149 (31.8%)	0.03
Miscellaneous	8 (5.6%)	9 (1.9%)	5.56	19 (13.4%)	51 (10.9%)	0.68
Bipolar	13 (9.2%)	31 (6.6%)	0.11	29 (20.4%)	88 (18.8%)	0.19
Adjustment	6 (4.2%)	31 (6.6%)	0.11	11 (7.7%)	62 (13.2%)	3.10
Substance Abuse	4 (2.8 %)	15 (3.2%)	0.05	1 (0.7%)	6 (1.3%)	0.32
Psychotic Spectrum	3 (2.1%)	11 (2.3%)	0.03	3 (2.1%)	11 (2.3%)	0.03
V code Abuse	-	-		1 (0.7%)	3 (0.6%)	0.01
Sexual Disorder	1 (0.7%)	-	3.31	2 (1.4%)	-	6.63
Pervasive Dev.	-	3 (0.6%)	0.91	1 (0.7%)	6 (1.3%)	0.32
Traumatic Stress	13 (9.2%)	20 (4.3%)	5.10*	39 (27.5%)	43 (9.2%)	31.40***
No Diagnosis	1 (0.7%)	1 (0.2%)	0.81			
Multiple Diagnoses	114 (80.3%)	374 (79.7%)	0.20			

* $p < .05$, ** $p < .01$, *** $p < .001$, [†]Due to co-occurring disorders, percentages for primary diagnosis data exceed 100%

Appendix F: Level of Care Placement Rates for Youth with (n=479) and Without (n=3885) Sexual Misconduct, Ordered Highest to Lowest by Absolute n Size

Level of Care	With	%	Without	%
Intensive In-home	199	41.5	2198	56.6
Community Based Residential Level 3	25	5.2	495	12.7
Therapeutic Foster Home	85	17.7	435	11.2
Multisystemic Therapy	9	1.9	399	10.3
Therapeutic Group Home	24	5.0	185	4.8
Family Functional Therapy	2	0.4	103	2.7
Hospital Based Residential	14	2.9	32	0.8
Multidimensional Treatment Foster Care	1	0.2	24	0.6
Outpatient	5	1.0	10	0.3
Crisis Services			3	0.1
Partial Hospitalization			1	0.0
Community Based Residential Level 2	65	13.6	0	0.0
Community Hospital Residential	49	10.2	0	0.0
Community Mental Health Shelter	1	0.2	0	0.0

Appendix G: Total Endorsement Rates for Treatment Targets for Youth with Sexual Misconduct in Full Sample (n=479), Ordered Highest to Lowest by Absolute n Size

Treatment Target	n	%
Oppositional Behavior	356	74.3
Positive Peer Interaction	353	73.7
Anger	320	66.8
Activity Involvement	262	54.7
Academic Achievement	247	51.6
Social Skills	247	51.6
Aggression	229	47.8
Self Esteem	226	47.2
Treatment Engagement	224	46.8
Anxiety	220	45.9
Depressed Mood	216	45.1
Peer or Sibling Conflict	204	42.6
Positive Thinking	197	41.1
Positive Family Functioning	195	40.7
Avoidance	188	39.2
Phobia Fears	188	39.2
Substance use	183	38.2
Attention Problems	175	36.5
School Involvement	172	35.9
*Self-injurious Behavior	191	34.7
Self Management	166	34.7
Contentment	158	33
Community Involvement	157	32.8
Peer Involvement	157	32.8
Empathy	155	32.4
Assertiveness	147	30.7
Runaway	143	29.9
Willful Misconduct/Delinquency	128	26.7
Traumatic Stress	112	23.4
Cognitive Intellectual Functioning	106	22.1
School Attendance	103	21.5
Adjustment to Change[†]	100	20.9
Hyperactivity	88	18.4

Treatment Target	n	%
Medical Regimen	86	18
Grief	79	16.5
Health Management	79	16.5
Other	63	13.2
Housing Situation[†]	62	12.9
Learning Disorder	58	12.1
Personal Hygiene	56	11.7
Adaptive Behavior or Living Skills[†]	51	10.6
Eating or Feeding	47	9.8
Suicidality	37	7.7
Sleep Disturbance	32	6.7
Enuresis/Encopresis	31	6.5
Gender Identity Problems	20	4.2
Shyness	20	4.2
*Occupational Functioning[†]	18	3.8
Mania	16	3.3
Psychosis	16	3.3
Pregnancy Education[†]	14	2.9
Parenting Skills	11	2.3
Speech Language	9	1.9
Fire Setting	6	1.3

[†]Treatment Targets added to the 2008 version

Appendix H: Total Endorsement Rates for Practice Elements for Youth with Sexual Misconduct in Full Sample (n=479), Ordered Highest to Lowest by Absolute n Size

Practice Element	n	%
Supportive Listening	440	91.9
Problem Solving	422	88.1
Communication Skills	415	86.6
Rapport Building	412	86.0
Emotional Processing	410	85.6
Natural and logical Consequences	409	85.4
Cognitive	400	83.5
Social Skills Training	395	82.5
Family Engagement	387	80.8
Skill Building	384	80.2
Therapist Praise	383	80.0
Educational Supports	373	77.9
Insight Building	370	77.2
Modeling	364	76.0
Family Therapy	362	75.6
Psychoeducational Child	327	68.3
Self Monitoring	320	66.8
Activity Scheduling	306	63.9
Commands	302	63.0
Psychoeducation Parent	299	62.4
Tangible Rewards	297	62.0
Parent or Teacher Praise	294	61.4
Crisis Management	289	60.3
Parent Coping	278	58.0
Line of Sight Supervision	273	57.0
Self Reward	267	55.7
Relaxation	256	53.4
Parent Teacher Monitoring	244	50.9
Medication	239	49.9
Mentoring	231	48.2
Maintenance	229	47.8
Assertiveness	222	46.3

Practice Element	n	%
Milieu Therapy	213	44.5
Time Out	206	43.0
Motivational Interviewing	196	40.9
Mindfulness	195	40.7
Goal Setting†	176	36.7
Stimulus Control	174	36.3
Peer Pairing	172	35.9
Behavioral Contracting	166	34.7
Ignoring DRO	159	33.2
Response Prevention	157	32.8
Care Coordination	147	30.7
Personal Safety Skills†	142	29.6
Attending	140	29.2
Response Cost	137	28.6
Interpretation	128	26.7
Twelve Step	111	23.2
Play Therapy	106	22.1
Functional Analysis	84	17.5
Exposure	83	17.3
Guided Imagery	76	15.9
Catharsis	70	14.6
Individual Therapy for Caregiver†	66	13.8
Free Association	53	11.1
Cultural Training	43	9.0
Marital Therapy	31	6.5
Thought Field Therapy	25	5.2
Biofeedback	18	3.8
Eye Movement	13	2.7
Hypnosis	7	1.5
Discrete Trial Training†	4	0.8
Physical Exercise†	0	0.0

†Practice Element added to the 2008 version

Appendix I: Total Endorsement Rates for All Treatment Targets for Youth with (*n*= 142) and without (*n*=469) Sexual Misconduct (SM) Treated at the Intensive In-Home Level of Care, Ordered Highest to Lowest by Absolute n Size of Youth with SM

Treatment Target	With		Without	
	n	%	*n*	%
Oppositional/Non-Compliant Behavior[a]	118	83.1	312	67
Positive Peer Interaction	106	74.6	315	67
Anger[a]	99	69.7	277	59
Activity Involvement	81	57.0	277	59
Academic Achievement	78	54.9	217	46
Aggression[a]	77	54.2	173	37
Positive Family Functioning[e]	73	51.4	146	31
Positive Thinking or Attitude[c]	68	47.9	200	43
Social Skills[c]	68	47.9	151	32
Anxiety	67	47.2	184	39
Self Esteem[d]	67	47.2	162	35
Treatment Engagement	67	47.2	257	55
Depressed Mood[d]	66	46.5	198	42
Self-Injurious Behavior	63	44.4	119	25
Avoidance	58	40.8	126	27
Peer or Sibling Conflict	58	40.8	137	29
School Involvement	57	40.1	166	35
Contentment or Enjoyment or Happiness	54	38.0	165	35
Attention Problems[a]	47	33.1	95	20
Phobia/Fears[c]	46	32.4	102	22
School Attendance or Truancy[be]	46	32.4	135	29
Community Involvement	44	31.0	124	26
Peer Involvement[c]	43	30.3	87	19
Self-Management/Self-Control	43	30.3	95	20
Substance Use[b]	42	29.6	147	31
Traumatic Stress[d]	42	29.6	37	8
Willful Misconduct or Delinquency[ab]	42	29.6	90	19
Runaway[b]	39	27.5	65	14
Assertiveness[c]	37	26.1	91	19
Cognitive Intellectual Functioning	36	25.4	73	16
Adjustment to Change	34	23.9	72	15
Empathy[a]	32	22.5	74	16
Health Management[e]	29	20.4	49	10
Medical Regimen Adherence[e]	29	20.4	68	15
Hyperactivity[a]	23	16.2	45	10
Grief[d]	22	15.5	40	9
Housing or Living Situation	20	14.1	52	11
Other	18	12.7	76	16
Adaptive Behavior or Living Skills	17	12.0	34	7
Learning Disorder or Underachievement[e]	17	12.0	29	6

Treatment Target	With		Without	
	n	%	*n*	%
Personal Hygiene	16	11.3	23	5
Suicidality[d]	15	10.6	27	6
Eating or Feeding Problems	13	9.2	18	4
Sleep Disturbance or Sleep Hygiene	11	7.7	24	5
Enuresis or Encopresis	9	6.3	9	2
Occupational Functioning or Stress	8	5.6	19	4
Psychosis	8	5.6	8	2
Gender Identity Problems	7	4.9	12	3
Mania	6	4.2	9	2
Parenting Skills	5	3.5	8	2
Pregnancy Education or Adjustment	4	2.8	9	2
Speech Language	3	2.1	4	1
Fire Setting	2	1.4	140	99
Shyness	2	1.4	15	3

[a]Treatment Targets on the *Disinhibition* factor, [b]Treatment Targets on the *Societal Rules Evasion* factor, [c]Treatment Targets on the *Social Engagement Deficits* factor, [d]Treatment Targets on the *Emotional Distress* factor, [e]Treatment Targets on the *Management of Biodevelopmental Issues* factor

Appendix J: Total Endorsement Rates for All MTPS Practice Elements for a Matched Sample of Youth with (n= 142) and without Sexual Misconduct (SM) (n=469) at the Intensive In-Home Level of Care, Ordered Highest to Lowest by Absolute n Size of Youth with SM

Practice Elements	With		Without	
	n	%	n	%
Problem Solving[b,c]	124	87.3	372	79.3
Emotional Processing[b]	122	85.9	329	70.1
Supportive Listening or Client Centered[b]	122	85.9	380	81.0
Cognitive[b]	119	83.8	360	76.8
Parent Coping	118	83.1	345	73.6
Family Engagement[a]	115	81.0	346	73.8
Family Therapy[c]	115	81.0	342	72.9
Communication Skills[a,c]	114	80.3	372	79.3
Therapist Praise or Rewards[a]	113	79.6	323	68.9
Psychoeducational Parent[c]	112	78.9	293	62.5
Relationship Rapport Building[b]	111	78.2	369	78.7
Natural and Logical Consequences[c]	110	77.5	345	73.6
Social Skills Training[a,b]	110	77.5	251	53.5
Psychoeducational Child[c]	100	70.4	297	63.3
Skill Building[a]	100	70.4	301	64.2
Educational Support	95	66.9	282	60.1
Insight Building[b,c]	95	66.9	309	65.9
Modeling[a]	95	66.9	254	54.2
Parent or Teacher Praise[a]	94	66.2	262	55.9
Crisis Management	90	63.4	199	42.4
Parent or Teacher Monitoring[a]	86	60.6	246	52.5
Self-Monitoring[b]	82	57.7	219	46.7
Relaxation	73	51.4	185	39.4
Activity Scheduling[a,c]	71	50.0	244	52.0
Commands[b]	71	50.0	184	39.2
Tangible Rewards[a]	70	49.3	187	39.9
Mentoring[b]	68	47.9	196	41.8
Self-Reward/Self-Praise[b]	68	47.9	175	37.3
Motivational Interviewing[b,c]	58	40.8	209	44.6
Goal Setting[c]	53	37.3	176	37.5
Assertiveness Training[b]	52	36.6	134	28.6
Medication or Pharmacotherapy	50	35.2	98	20.9
Mindfulness[b]	50	35.2	142	30.3
Behavioral Contracting	43	30.3	114	24.3
Line of Sight Supervision[a]	42	29.6	68	14.5
Maintenance or Relapse Prevention[b,c]	42	29.6	128	27.3
Personal Safety Skills	42	29.6	63	13.4

Practice Elements	With		Without	
	n	%	n	%
Response Prevention[b]	37	26.1	77	16.4
Stimulus Control or Antecedent Mgmt[b]	37	26.1	115	24.5
Attending	36	25.4	80	17.1
Response Cost[a]	35	24.6	67	14.3
Care Coordination	34	23.9	119	25.4
Ignoring/DRO[a]	32	22.5	94	20.0
Exposure[b]	31	21.8	81	17.3
Time Out	30	21.1	53	11.3
Individual Therapy for Caregiver[a]	29	20.4	92	19.6
Interpretation	28	19.7	94	20.0
Guided Imagery	26	18.3	62	13.2
Play Therapy	25	17.6	54	11.5
Catharsis	20	14.1	39	8.3
Peer Pairing[a,b,c]	19	13.4	56	11.9
Functional Analysis	16	11.3	47	10.0
Milieu Therapy	15	10.6	32	6.8
Marital Therapy[c]	12	8.5	33	7.0
Free Association	9	6.3	20	4.3
Thought Field Therapy	7	4.9	14	3.0
Twelve-Step Program	7	4.9	19	4.1
Cultural Training	6	4.2	17	3.6
Biofeedback or Neurofeedback	4	2.8	9	1.9
Eye Movement or Trapping	4	2.8	7	1.5
Hypnosis	4	2.8	11	2.3
Discrete Trial Training	1	0.7	6	1.3
Physical Exercise	0	0.0	0	0.0

[a]Practice Elements on the *Behavior Management* factor, [b]Practice Elements on the *Coping and Self-Control* factor, [c]Practice Elements on the *Family Interventions* factor

Appendix K: Total Endorsement Rates for All MTPS Practice Elements for Youth at Benchmark (n=49), Ordered Highest to Lowest by Absolute n Size

Practice Element	n	%
Individual Therapy for Caregiver*	49	100.0
Communication Skills*	48	98.0
Emotional Processing*	48	98.0
Milieu Therapy*	48	98.0
Rapport Building*	48	98.0
Skill Building*	48	98.0
Educational Supports*	47	95.9
Supportive Listening*	46	93.9
Family Engagement*	45	91.8
Family Therapy*	45	91.8
Social Skills Training*	45	91.8
Assertiveness	44	89.8
Problem Solving	44	89.8
Insight Building	43	87.8
Time Out	42	85.7
Cognitive	41	83.7
Maintenance	41	83.7
Natural and Logical Consequences	41	83.7
Self Monitoring	41	83.7
Activity Scheduling	40	81.6
Therapist Praise	40	81.6
Line of Sight Supervision	39	79.6
Self Reward	39	79.6
Modeling	37	75.5
Commands	34	69.4
Twelve Step	33	67.3
Psychoeducational Child	32	65.3
Medication	31	63.6
Tangible Rewards	29	59.2
Parent or Teacher Praise	28	57.1
Psychoeducation Parent	28	57.1
Relaxation	27	55.1
Stimulus Control	22	44.9
Motivational Interviewing	21	42.9

Practice Element	n	%
Mentoring	18	36.7
Peer Pairing	18	36.7
Catharsis	16	32.7
Goal Setting	16	32.7
Behavioral Contracting	15	30.6
Care Coordination	15	30.6
Crisis Management	15	30.6
Ignoring DRO	15	30.6
Mindfulness	15	30.6
Response Prevention	14	28.6
Interpretation	11	22.4
Parent Teacher Monitoring	9	18.4
Attending	7	14.3
Guided Imagery	7	14.3
Personal Safety Skills	7	14.3
Thought Field Therapy	6	12.2
Marital Therapy*	4	8.2
Parent Coping*	4	8.2
Play Therapy*	4	8.2
Discrete Trial Training*	2	4.1
Free Association*	2	4.1
Functional Analysis*	2	4.1
Response Cost*	2	4.1
Biofeedback*	1	2.0
Cultural Training*	1	2.0
Exposure*	0	-
Eye Movement*	0	-
Hypnosis*	0	-
Physical Exercise*	0	-

*Practice Elements removed from K-means cluster analysis due to endorsement rate being ≤10% or ≥90%

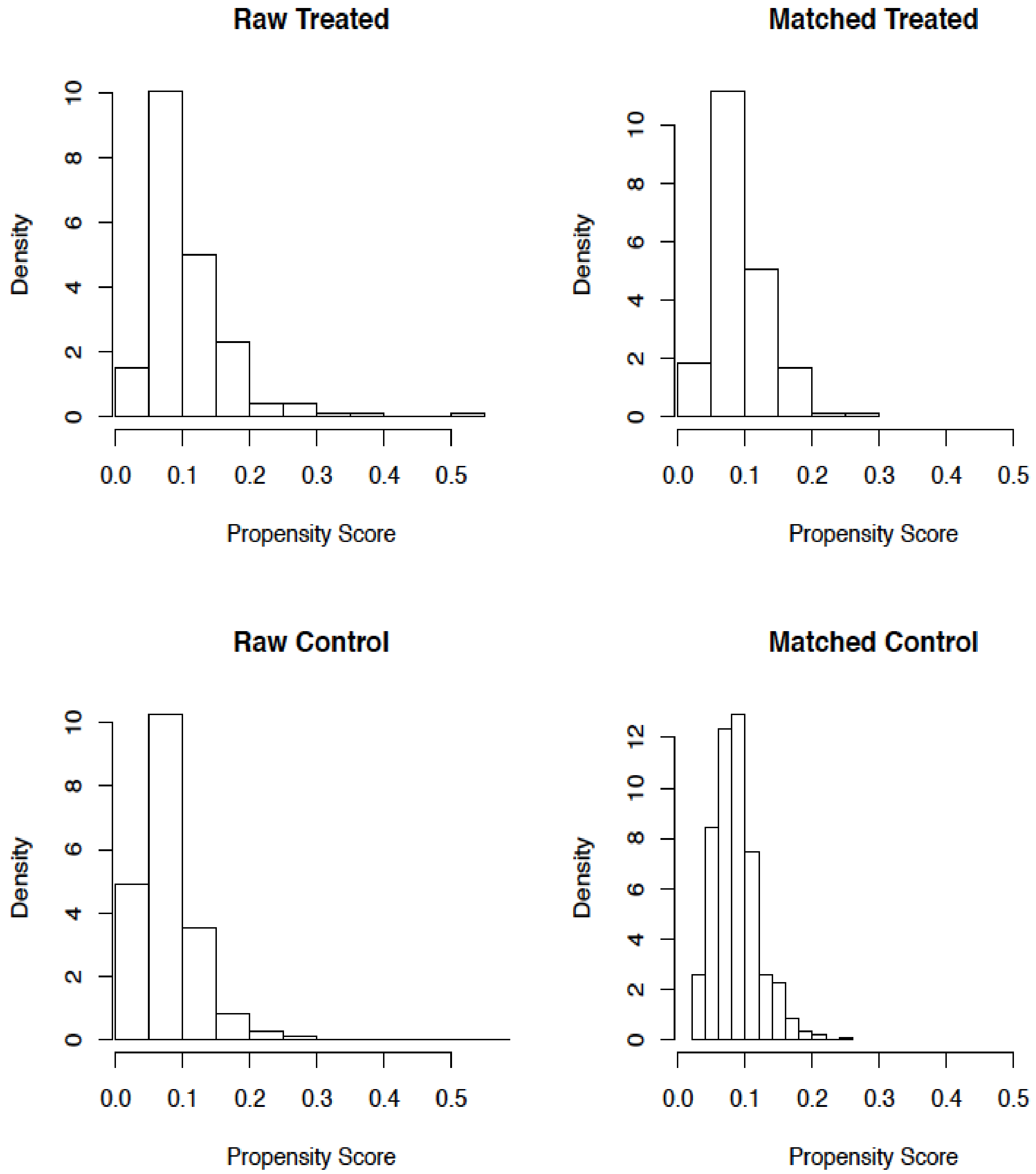
Appendix L: Total Endorsement Rates for All MTPS Treatment Targets for Youth at Benchmark (n=49), Ordered Highest to Lowest by Absolute n Size

Treatment Target	n	%
Empathy	43	87.8
Assertiveness	39	79.6
Anger	35	71.4
Substance use	35	71.4
Positive Peer Interaction	30	61.2
Activity Involvement	29	59.2
Oppositional Behavior	29	59.2
Academic Achievement	28	57.1
Self Esteem	25	51.0
Avoidance	23	46.9
Depressed Mood	22	44.9
Positive Thinking	22	44.9
Phobia Fears	21	42.9
Attention Problems	20	40.8
Social Skills	19	38.8
Anxiety	18	36.7
Treatment Engagement	18	36.7
Self-injurious Behavior	17	34.7
Cognitive Intellectual Functioning	16	32.7
Peer Involvement	15	30.6
School Involvement	14	28.6
Aggression	12	24.5
Health Management	12	24.5
Positive Family Functioning	11	22.4
Peer or Sibling Conflict	9	18.4
Self-Management	8	16.3
Adjustment to Change	7	14.3
Contentment	7	14.3
Learning Disorder	7	14.3
Hyperactivity	5	10.2
Shyness	5	10.2
Willful Misconduct/Delinquency	5	10.2
Housing Situation*	4	8.2
Medical Regimen*	4	8.2

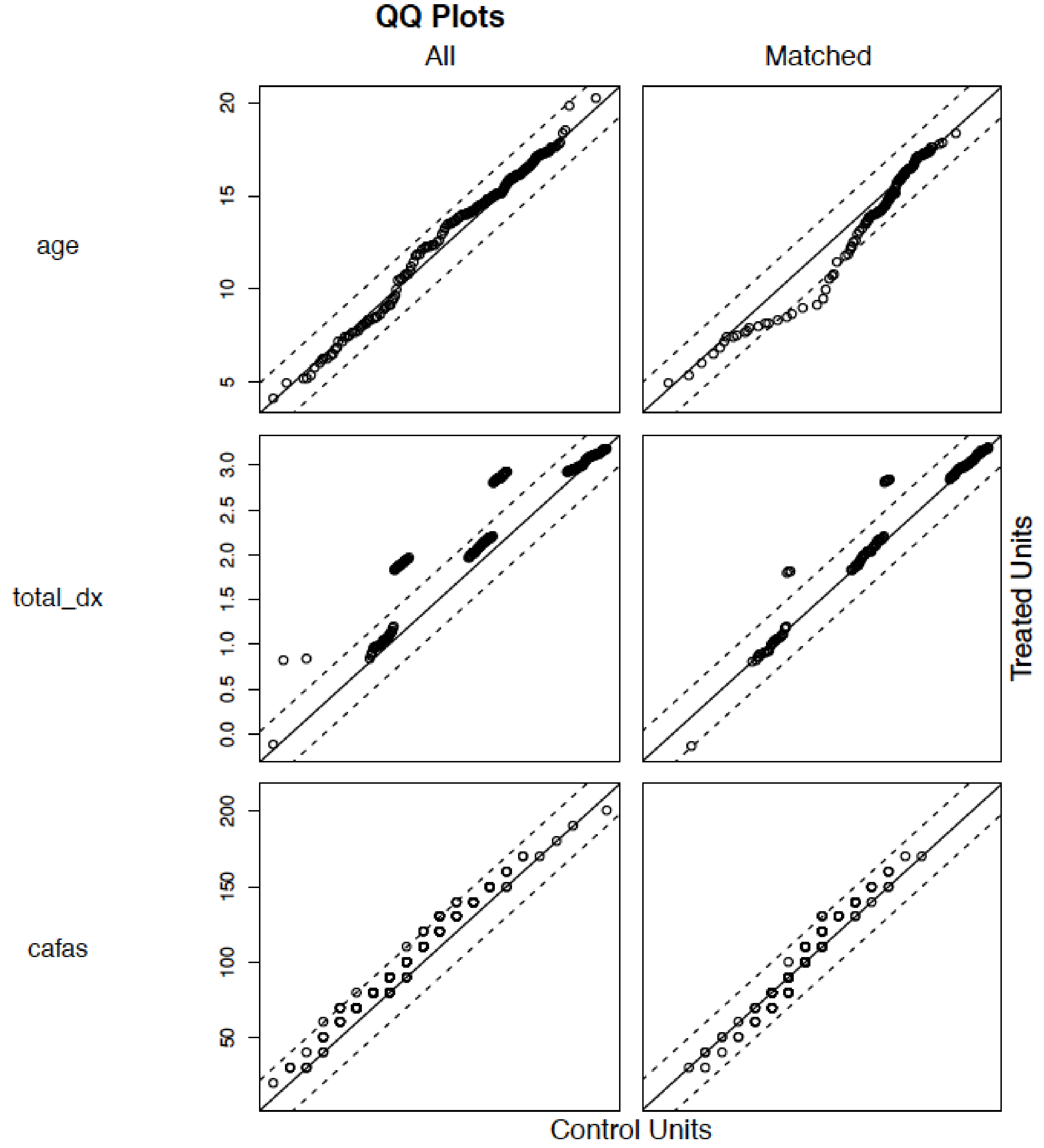
Treatment Target	n	%
Traumatic Stress*	4	8.2
Eating or Feeding*	3	6.1
Grief*	3	6.1
Suicidality*	3	6.1
Gender Identity Problems*	2	4.1
Personal Hygiene*	2	4.1
Community Involvement*	6	2.2
Adaptive Behavior or Living Skills*	1	2.0
Other*	1	2.0
Runaway*	1	2.0
Enuresis/Encopresis*	0	-
Fire Setting*	0	-
Mania*	0	-
Occupational Functioning*	0	-
Parenting Skills*	0	-
Pregnancy Education*	0	-
Psychosis*	0	-
School Attendance*	0	-
Sleep Disturbance*	0	-
Speech Language*	0	-

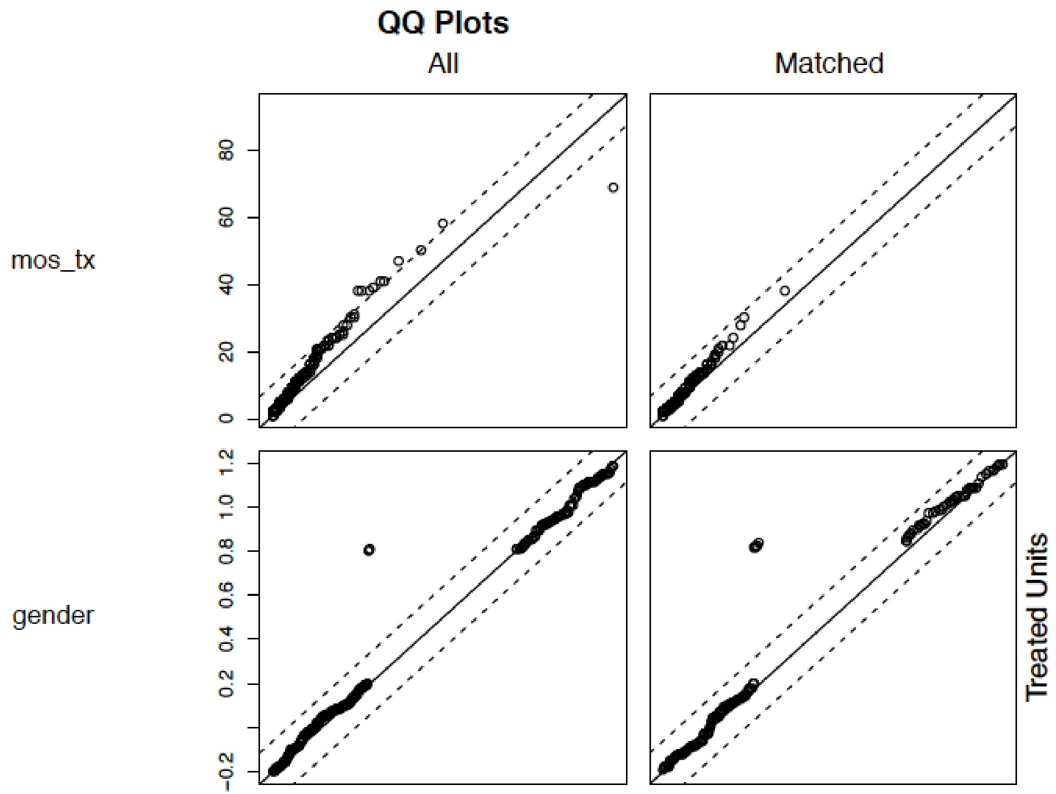
*Treatment Targets removed from K-means cluster analysis due to endorsement rate being ≤10% or ≥90%

Appendix M: Histograms of Propensity Scores for Coarsened Exact Matched Sample



Appendix N: Quantile-quantile plots for Coarsened Exact Matched Sample





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Appendix O: List of Practice Element Factors and Individual Practice Elements which Loaded onto Each Factor

Practice Element Factor Scores		
Behavior Management	**Coping and Self-Control**	**Family Interventions**
Line of Sight Supervision	Relaxation	Marital Therapy
Therapist Praise/Rewards	Mindfulness	Psychoeducation for Parent
Modeling	Self Monitoring	Psychoeducation for Child
Tangible Rewards	Self Reward or Self Praise	Natural and Logical Consequences
Ignoring or DRO	Mentoring	Family Therapy
Communication Skills	Assertiveness Training	Insight Building
Activity Scheduling	Emotional Processing	Maintenance or Relapse Prevention
Parent Monitoring	Exposure	Parent Praise
Time Out	Cognitive Coping	Communication Skills
Parent Praise	Insight Building	Functional Analysis
Response Cost	Social Skills Training	Motivational Interviewing
Peer Modeling or pairing	Response Prevention	Commands of Limit Setting
Social Skills Training	Commands or Limit Setting	Problem Solving
Skill Building	Motivational Interviewing	
Family Engagement	Supportive Listening or Client Centered	
	Problem Solving	
	Maintenance or Relapse Prevention	
	Stimulus and Antecedent Control	
	Peer Modeling and Pairing	

Appendix P: List of Treatment Target Factors and Individual Treatment Targets which Loaded onto Each Factor

Disinhibition	Societal Rules Evasion	Social Engagement Deficits	Emotional Distress	Biodevelopmental Issues
Oppositional/ Non-Compliant Behavior	Willful Misconduct/ Delinquency	Assertiveness	Depressed mood	Health management
Aggression	School Refusal/Truancy	Positive Thinking	Suicidality	Learning Disability/ Underachievement
Hyperactivity	Substance Use	Social Skills	Traumatic stress	Positive Family Functioning
Willful Misconduct/ Delinquency	Runaway	Peer Involvement	Self-esteem	Medical Regimen Adherence
Anger		Phobias or Fears	Grief	School Refusal or Truancy
Empathy				
Attention Problems				