Changes in treatment engagement of youths and families with complex needs

Kimberly D. Becker a,⁎, Laurel J. Kiser b, Steven R. Herr b, Laura M. Stapleton c, Crystal L. Barksdale d, Sara Buckingham e

a University of Maryland School of Medicine, Department of Psychiatry, 737 W. Lombard Street, 4th floor, Baltimore, MD 21201, United States
b University of Maryland School of Medicine, Department of Psychiatry, 737 W. Lombard Street, 5th floor, Baltimore, MD 21201, United States
c University of Maryland, Department of Human Development and Quantitative Methodology, 1230C Benjamin Building, College Park, MD 20742, United States
d SRA International, Inc., 6003 Executive Blvd., Suite 400, Rockville, MD 20852, United States
e University of Maryland School of Medicine, Department of Psychiatry, 737 W. Lombard Street, 5th floor, Baltimore, MD 21201, United States

ARTICLE INFO

Article history:
Received 4 October 2013
Received in revised form 11 September 2014
Accepted 11 September 2014
Available online 22 September 2014

Keywords:
Treatment engagement
Alliance
Satisfaction
Participation
Intensive treatment

Abstract

This study examined changes in treatment engagement of 437 youths and their caregivers receiving mental health services in the United States. The youth sample had an average age of 12.03 years (SD = 2.98). Nearly two-thirds (64.1%) of the youth sample was male and approximately the same proportion was Caucasian. Youths were diagnosed primarily with externalizing (50.1%) and internalizing (46.0%) disorders. Most youths (86%) received services from intensive settings (i.e., behavioral health rehabilitation, treatment foster care, family-based services) that provide care beyond the scope of services provided to youths receiving services in traditional outpatient settings. Using KIDnet, an electronic outcomes management system, youths and their caregivers reported on three domains of treatment engagement: therapeutic alliance, satisfaction with services, and treatment participation at each 90-day reporting cycle until treatment termination. Youths and caregivers receiving services from high intensity treatment settings reported significantly lower initial engagement compared to youths and caregivers receiving less intensive outpatient services. Regardless of setting, treatment engagement reported by youths and caregivers increased over time. These promising findings suggest that families receiving intensive treatment develop connections to service providers and hold positive perceptions of services over time. These results provide the foundation for future research to examine the practices that are associated with changes in treatment engagement over time.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Estimates suggest that 20–40% of youths have a psychiatric disorder (Costello, Copeland, & Angold, 2011). Despite an apparent need for mental health services, national survey data indicate that as many as 50% of youths in need do not enroll in mental health services (Merikangas et al., 2010). In outpatient as well as residential settings, approximately 50% of youths terminate services early (Pellerin, Costa, Weems, & Dalton, 2010; Vourakis, 2005); therefore, the study of the engagement of youths and families in services is a worthy endeavor.

Engagement is typically conceptualized as a multifaceted construct that reflects attitudes and behaviors (Ajzen, 1991; Morrissey-Kane & Prinz, 1999; Staudt, 2007). Attitudinal engagement can be influenced by many factors, such as therapeutic alliance, treatment satisfaction, beliefs of treatment efficacy, stressors, and external barriers to treatment, to name a few. Attitudinal engagement, in turn, is related to client behavioral engagement, as indicated by attendance, participation in treatment sessions, and adherence. Engagement is not static, but is a dynamic process that occurs over the course of treatment (Ellis, Lindsey, Barker, Boxmeyer, & Lochman, 2013; Staudt, 2007). Additionally, engagement ebbs and flows over time due to many of the same factors that influence engagement at the outset of treatment (Nock & Kazdin, 2005). Not surprisingly, initial treatment engagement often predicts later engagement (Chu & Kendall, 2004; Ellis et al., 2013). Moreover, the extent to which a child is engaged in treatment predicts a caregiver’s attendance at treatment (Ellis et al., 2013).

Although theories clearly specify engagement as a multifaceted construct that fluctuates over the course of treatment, the body of literature examining changes in engagement and predictors of engagement is relatively small. Learning more about how treatment engagement changes over time, as well as the factors that predict changes in engagement, could inform continued development and testing of interventions to promote attitudinal and behavioral engagement. The purpose of this paper was to examine longitudinal patterns of treatment engagement.
in a large sample of youths and their caregivers receiving mental health services, who reported every three months on therapeutic alliance, satisfaction with services, and treatment participation.

Of note, “treatment engagement” is a term with a myriad of meanings that lacks clear operationalization across studies. The current study included a composite engagement construct reflecting three facets of engagement: therapeutic alliance, satisfaction, and treatment participation. In the paragraphs that follow, the rationale for inclusion of each component in the composite representation of treatment engagement is presented.

1.1. Therapeutic alliance

Although variations in the conceptualization of therapeutic alliance exist (see Elvins & Green, 2008 for a review of therapeutic alliance), alliance is considered a multifaceted construct that includes the affective relationship between the client and therapist as well as the client’s collaboration with therapy activities (Bordin, 1994; Hougaard, 1994; Shirk & Saiz, 1992). Of the various domains of treatment engagement, therapeutic alliance is the most widely studied. Its importance to the therapeutic process is underscored by meta-analytic evidence of the association between therapeutic alliance on the one hand, and treatment attrition or outcome on the other (Karver, Handelsman, Fields, & Bickman, 2006; Shirk & Karver, 2003), although a more recent meta-analysis (i.e., McLeod, 2011) yielded a smaller effect size that was not significant.

Research indicates that the therapeutic alliance is a dynamic, rather than static, construct (Chu & Kendall, 2004; Robbins et al., 2006). The course of the therapeutic alliance is particularly important to examine because change in alliance, rather than initial alliance, is a better predictor of treatment attrition (Robbins et al., 2006) and outcomes (Chu & Kendall, 2004; Hogue, Dauber, Stambaugh, Vecera, & Liddle, 2006).

Alliance within the context of children’s mental health services involves the development of therapeutic relationships between the therapist and both the youth and his/her caregiver(s) (Bickman et al., 2004; Shirk & Karver, 2003), even when the primary treatment modality is not family-based. Alliance with the caregiver is important to treatment success because youths do not typically self-refer to treatment and often rely on a caregiver to approve care decisions, provide transport to and from appointments, and follow up with ancillary support such as obtaining medication from a pharmacy. Interestingly, research suggests that the correlation between reports from youths and caregivers about the therapeutic alliance is low (Robbins, Turner, Alexander, & Perez, 2003; Shelef, Diamond, Diamond, & Liddle, 2005) and that informant discrepancies related to perceptions of the therapeutic alliance are meaningful. In one study, for example, the divergence between adolescent and caregiver report of alliance predicted treatment dropout (Robbins et al., 2003).

Given the importance of the therapeutic alliance to treatment participation and progress, the dynamic nature of the alliance, and the potential divergence between reports of alliance from youths and caregivers, it is not surprising that there is growing interest in the factors associated with positive therapeutic alliance. However, the literature on predictors of alliance in children’s mental health treatment is sparse at this time. In general, there is little support for the association between demographic factors such as a youth’s race, age, or gender and youth-rated alliance (e.g., Creed & Kendall, 2005; Garner, Godfrey, & Funk, 2008). Intensity of services has not been formally examined as a predictor of alliance, although there is evidence that satisfactory alliance can be achieved in intensive service settings (i.e., partial hospitalization and wilderness camp; Bickman et al., 2004).

In sum, it appears that the therapeutic alliance is an important domain of treatment engagement because it bears at least a modest association to treatment attendance and outcome. Moreover, it appears that the therapeutic alliance is dynamic over time and that perceptions of the alliance vary by informant, thereby underscoring the need to examine change over time and across youth and caregiver reports.

1.2. Satisfaction

The literature on satisfaction with children’s mental health services is growing yet faces conceptual and measurement challenges that are common in nascent literatures (Biering, 2010). The measurement of consumer satisfaction is steadily increasing in children’s mental health services for reasons of accountability, ease of administration, and the face validity of measures (Athey & Bickman, 2012). Satisfaction might be examined across one or more domains: organization of services (e.g., accessibility, cost of services), therapeutic relationship, and treatment outcome (Biering, 2010), although often these domains are not clearly specified but are discussed under the umbrella term as “satisfaction.”

There is mixed evidence for the relationship between satisfaction and treatment outcome, such that some studies have shown a small association (Garland, Haine, & Boxmeyer, 2007; Lambert, Salzer, & Bickman, 1998; Turchik, Karpenko, Ogles, Demireva, & Probst, 2010) whereas others have not (e.g., Nosler & Bickman, 2000; Shapiro, Weller, & Jacobson, 1997). It is plausible that satisfaction might change over the course of treatment, perhaps varying according to fluctuations in the therapeutic alliance or treatment progress. To our knowledge, there exist no studies of changes in satisfaction over time within the context of youth mental health services. With regard to informant, studies that measure satisfaction have found that caregivers and youths report positive satisfaction with services (e.g., Garland et al., 2007; Turchik et al., 2010), yet caregiver and youth reports often have only a small correlation with one another (Athey & Bickman, 2012; Garland et al., 2007; Godley, Fielder, & Funk, 1998; Turchik et al., 2010). In the Garland et al. (2007) study, clinical improvement was associated with caregiver satisfaction but not youth satisfaction; thus, it may be important to consider the perspectives of youths as well as caregivers to fully understand treatment satisfaction on the part of the child or adolescent consumer.

Examination of the association between client demographic factors and satisfaction have yielded few robust predictors of satisfaction (Barber, Tischler, & Healy, 2006; Garland, Aarons, Hawley, & Hough, 2003; Garland et al., 2007; Martin, Garske, & Davis, 2000). In one study, Caucasian youths reported greater satisfaction than non-Caucasian youths (Garland et al., 2007) and males reported greater satisfaction than females in another study (Shapiro et al., 1997). Two studies suggest associations between satisfaction and age, with younger youths reporting greater satisfaction than their counterparts (Shapiro et al., 1997; Stüntzer-Gibson, Koren, & DeChillo, 1995), yet a separate study found that older youths reported greater satisfaction than younger youths (Turchik et al., 2010).

Findings regarding the association between clinical characteristics (e.g., symptom severity, diagnosis) and satisfaction are also mixed such that some studies have found an inverse relationship between satisfaction and symptom severity (e.g., Barber et al., 2006; Garland, Aarons, Saltzman, & Kruse, 2000; Godley et al., 1998; Nosler & Bickman, 2000), whereas others have found no relationship (Garland et al., 2007; Shapiro et al., 1997; Stüntzer-Gibson et al., 1995). Turchik et al. (2010) found evidence for the association between clinical diagnosis and satisfaction such that youths with disruptive behavior disorders reported less satisfaction than youths with ADHD, adjustment, anxiety, bipolar, major depression, mood disorders, and psychotic disorders. Overall, the literature regarding satisfaction with children’s mental health services is relatively small and much remains to be studied regarding the course of satisfaction over time and the factors that promote positive reports of satisfaction with services.

1.3. Treatment participation

Treatment participation refers to an individual’s involvement in treatment sessions. Participation is one component of adherence, in
that it refers to an “active, voluntary, collaborative involvement of the patient in a mutually acceptable course of behavior to produce a desired preventative or therapeutic result” (Meichenbaum & Turk, 1987, p. 20) within the context of a treatment session. Participation is frequently operationalized as either the quantity or quality of involvement (Nock & Ferriter, 2005). Of the three domains of treatment engagement relevant to this paper, treatment participation is the domain with the smallest literature.

In a literature review conducted by Fjernestad, Haugland, Heiervang, and Ost (2009) examining participation and involvement on outcomes of cognitive–behavioral treatment for anxiety in youth, half (6/12) of the studies that looked at caregivers’ participation found it to significantly positively predict improvement in youths’ diagnosis, symptoms, and/or global functioning. To our knowledge, only one study (i.e., Chu & Kendall, 2004) has examined child participation and found it to predict improvement in symptoms and global functioning.

In a study of intensive mental health treatment, Richards, Bowers, Lazicki, Kral, and Jacobs (2008) found that increases in caregivers’ participation in treatment was associated with enhanced emotional and social support from parents towards their youths, and improvement in youths’ cognitions and functioning.

It is conceivable that participation might fluctuate over the course of treatment, perhaps according to treatment changes or youths’ treatment progress. Macdonald et al. (2007) put forth a developmental framework of participation in children’s mental health services, suggesting that a caregiver’s participation in treatment naturally decreases as their child progresses. However, a recent study of caregivers and youths involved in a preventive intervention found that caregiver engagement (i.e., attendance) changed over time whereas youth participation remained relatively stable over time (Ellis et al., 2013). To our knowledge, there has not been any research that examines differences between caregivers’ and youths’ reports of treatment participation.

There is some evidence for an association between demographic and clinical variables on the one hand, and treatment participation. Specifically, caregivers of older children or children with lower functioning (both psychologically and physically) are less likely to participate in treatment (Fawley-King, Haine-Schlagel, Trask, Zhang, & Garland, 2013). Additionally, membership in a racial minority group, low socioeconomic status, high increased stress, unemployment, psychopathology, and lack of treatment language proficiency are associated with lower participation in treatment for caregivers (Fawley-King et al., 2013; Patterson & Chamberlain, 1994; Pérez, Ezpeleta, & Domenech, 2007). Additionally, satisfaction with services as well as perceived support and barriers predict participation (Fawley-King et al., 2013; Kazdin, Holland, & Crowley, 1997). A family environment characterized by low cohesion and emotional support has been shown to be related to low participation in treatment by youth (Ellis et al., 2013).

Overall, the literature regarding active participation in children’s mental health services is small, especially in regard to youths’ involvement. Many topics are left to be explored, such as the course of treatment participation over time, differences in participation between youth and their caregivers, and the factors that promote participation.

1.4. Aims

Although the theoretical literature posits that attitudinal engagement provides the foundation for behavioral engagement and positive treatment outcomes, the empirical literatures examining distinct areas of engagement (i.e., therapeutic alliance, satisfaction with services, and participation) are still developing. Empirical findings are relatively mixed with regard to demographic, clinical, and service predictors of perceptions of alliance, satisfaction, and participation. Notably, few studies examine change in these constructs over time, both in terms of the topography of these constructs as well as predictors of change. The majority of studies have been conducted with traditional outpatient samples, so little is known about the treatment engagement of youths and families receiving services in more intensive settings. Compared to the treatment engagement of youths and families receiving low intensity services, the engagement for those receiving higher intensity services might be lower, perhaps due to a constellation of factors such as longer time in treatment, greater number of barriers to treatment, higher caregiver stress, and prior experiences with treatment. Moreover, few studies examine separately the reports of youths and caregivers, despite evidence of a low association between reports across informants.

The present study seeks to build upon prior research by examining therapeutic alliance, satisfaction with services, and treatment participation in a large sample of clinically complex youths and their caregivers receiving services in a variety of settings, including intensive settings. Reports from youths and their caregivers were collected during the course of usual care, as opposed to within the context of a research study. Multiple administrations of engagement measures provided the opportunity to examine changes in and predictors of engagement and variations in these trends across informants.

There were two main research questions. First, does engagement as reported by youths and caregivers change over time? Consistent with prior research (e.g., Chu & Kendall, 2004; Ellis et al., 2013; Robbins et al., 2006), it was hypothesized that engagement would be dynamic, rather than static, across time. Second, which demographic, clinical, and service setting characteristics predict initial levels of and change in engagement for youths and their caregivers? Consistent with some previous research (e.g., Garland et al., 2000; Noser & Bickman, 2000), it was hypothesized that service intensity characteristics would be associated with initial levels of engagement and change over time such that youths and caregivers receiving more intensive services would consistently report lower levels than those receiving less intensive services.

In light of mixed findings in the literature (e.g., Creed & Kendall, 2005; Garland et al., 2003; Garland et al., 2007; Shapiro et al., 1997), it was not expected that demographic characteristics would be strongly related to engagement.

2. Method

2.1. Sample

The data from approximately 4500 youths who had received behavioral health services between 2007 and 2010 in one of 36 different programs in the Mid-Atlantic region of the United States were entered into an internet-based outcomes management system. The present study included a subsample of 437 youths (and their caregivers) who met the following criteria: (a) were between 7 and 21 years old at intake, (b) had a primary diagnosis of an Axis I mood, anxiety, attention deficit, disruptive behavior, or autism spectrum disorder, and (c) had complete data available on hypothesized covariates (e.g., age, race, diagnosis, service setting) and engagement as reported by youths and caregivers at a minimum of one 90-day reporting cycle until treatment termination (e.g., discharge, dropout).

Table 1 reports the demographic characteristics of the youths and their caregivers. Youths were, on average, 12.03 years old (SD = 2.98). Nearly two-thirds (64.1%) of the youths sample was male and approximately the same proportion was Caucasian. The majority of caregivers were the biological parent of the youths, more than two-thirds (68.6%) were female, and 65.2% were Caucasian. Due to missing data and small sample sizes (e.g., Asian (n = 32), Pacific Islander (n = 24), and youths of “other” (n = 41)), some racial/ethnic groups were excluded from the study.

Half the youths were diagnosed with an externalizing disorder, 46% were diagnosed with an internalizing disorder, and 14.9% were diagnosed with a disorder on the autism spectrum. The majority of youths received services in behavioral health rehabilitation services (42%), treatment foster care (25%), and family-based mental health services (15%). Combined, these three program types accounted for 86% of the services offered. All three services are utilized with children and
Table 1
Sample characteristics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Youths [n = 437]</th>
<th>Caregivers [n = 437]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>64.1</td>
<td>10.1</td>
</tr>
<tr>
<td>Female</td>
<td>35.9</td>
<td>68.6</td>
</tr>
<tr>
<td>N/A</td>
<td>0.0</td>
<td>21.3</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>61.3</td>
<td>65.2</td>
</tr>
<tr>
<td>African American</td>
<td>24.7</td>
<td>25.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6.0</td>
<td>7.6</td>
</tr>
<tr>
<td>Biracial/multiracial</td>
<td>8.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any mood disorder</td>
<td>34.3</td>
<td></td>
</tr>
<tr>
<td>Any anxiety disorder</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>Any disruptive behavior disorder/ADHD</td>
<td>50.1</td>
<td></td>
</tr>
<tr>
<td>Any autism/PDD disorder</td>
<td>14.9</td>
<td></td>
</tr>
<tr>
<td>Program type [n = 36]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Family-based services</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>Psychiatric rehabilitation programs</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Treatment foster care</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>Behavioral health rehabilitation services</td>
<td>41.7</td>
<td></td>
</tr>
<tr>
<td>Long-term residential</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Caregiver relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological</td>
<td>72.1</td>
<td></td>
</tr>
<tr>
<td>Adoptive</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>9.4</td>
<td></td>
</tr>
<tr>
<td>System</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>Caregiver education level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>12.1</td>
<td></td>
</tr>
<tr>
<td>High school or equivalent</td>
<td>45.8</td>
<td></td>
</tr>
<tr>
<td>Associates/technical</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Bachelors degree</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Graduate degree</td>
<td>5.3</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>17.9</td>
<td></td>
</tr>
</tbody>
</table>

adolescents who have severe mental and emotional presentations that extend beyond the scope of services provided by outpatient clinics and are either at risk for being removed from the home, or in the case of treatment foster care, have been removed from the home. On average, youths worked with 1.95 clinicians ($SD = 1.23$).

2.2. Procedure

Data collection occurred through KIDnet, a system carefully designed as a measurement tool and a protocol to inform an outcomes management process. KIDnet’s data collection tool is focused on the dimensions of children’s services considered to be essential by youths and their families, providers, payers, and researchers (Hoagwood, Jensen, Petti, & Burns, 1996; Kiser, 1996). These critical dimensions include treatment progress related to clinical symptoms and functioning. Data are also collected on other significant factors necessary to understand treatment progress data, including environmental influences and risks experienced by the youth and family, treatment process conditions that influence outcomes (e.g., reports of alliance, satisfaction, and participation), and the amount and type of treatments and techniques used. KIDnet’s protocol includes multiple variables to define outcomes, multiple informants, standardized instruments, and multiple administrations.

Most of the service providers using KIDnet were participating in a network of providers under a managed care agreement in Pennsylvania and Maryland, although some were independent of this network (mainly treatment foster care providers). Service settings included outpatient mental health centers, psychiatric rehabilitation services, family-based mental health services, treatment foster care, school-based mental health, and residential treatment facilities. Youths were selected because they were receiving care from one of the participating providers and met study eligibility criteria.

2.3. Measures

2.3.1. Psychiatric diagnosis

Upon enrollment in services, clinicians provided a list of existing diagnoses, or completed an assessment to diagnose youths accordingly. For the purposes of the present study, Axis I diagnoses that were labeled “primary” were used to determine the number and type of diagnoses a youths had at intake. A binary variable was created to reflect the presence or absence of each disorder and each youth could have multiple primary disorders.

2.3.2. Demographic characteristics

Upon enrollment in services, clinicians or trained interviewers obtained reports from youths and caregivers about their demographic characteristics such as date of birth, gender, and race/ethnicity. Race/ethnicity information for the youths and caregivers was used to create four mutually exclusive race/ethnicity categories (non-Hispanic White, non-Hispanic African American, Hispanic, and Biracial/Multiethnic). Information collected solely from the caregiver included caregiver education level and his/her relationship with the youth. The youth-caregiver relationship was identified with the use of 11 possible categories (e.g., biological parent, grandparent, aunt/uncle and adoptive parent). This variable was then simplified by consolidating the categories into 4 groups, consisting of biological parent (including stepparents), adoptive parent, family member (e.g., grandparent, aunt/uncle, sister/brother), and system (e.g., foster parent and social worker).

2.3.3. Service characteristics

Data regarding the type of program from which each youth received services were collected from service records. The six service categories were: (a) long-term residential, (b) treatment foster care, (c) psychiatric rehabilitation programs, (d) behavioral health rehabilitation services, (e) family-based mental health, and (f) outpatient services. Residential and treatment foster care services are out-of-home placements that provide intensive mental health treatment. Residential care is facility-based including lodging. In treatment foster care, youths are placed with trained foster parents. Psychiatric rehabilitation programs (PRPs) provide intensive outpatient services designed to stabilize and maintain functioning in the community. Services often include individual treatment, medication management, skill-building, and supported socialization and recreation. Behavioral health rehabilitation services (BHRS), are a specific form of PRP characterized by an intensive in-home service designed to address children’s complex behavioral health needs as an alternative to residential care. BHRS typically include a behavioral specialist, an in-home mobile therapist, and the use of therapeutic support staff in the home or school. Family-based services, another form of PRP, are a specific program of care designed for youths but focused on supporting family needs. Outpatient services are office-based and typically involve individual or group therapies attended once or twice per week. Medication management may also be accessed through outpatient services.

Additionally, the number of therapists with whom each youth worked throughout the course of his or her treatment was collected from service records.

2.3.4. Treatment engagement

Youths and caregivers responded to a 17-item questionnaire reflecting treatment engagement at the initial engagement assessment 90 days after the start of treatment and at 90-day intervals throughout treatment until discharge or dropout. This questionnaire included 3 subscales: (a) therapeutic alliance (6 items reflecting relationship and working alliance; e.g., enjoy talking to therapist; feel comfortable asking questions to therapist; caregiver alpha = .93; youth alpha = .92).
was not significant at the level of program. We therefore ran trimmed models, only varying the slope of time across individuals within program and not at the aggregate program level. In turn, these models (shown in the last column of Tables 2 and 3) gained only slightly in $-2\chi^2$, but involved two fewer parameter estimates, and thus were the preferred models.

In the final accepted 3-level unconditional model of change in treatment engagement for caregivers (Table 2), the intercept was significantly different from zero ($54.48, SE = .66$). Over time, caregiver-reported treatment engagement increased approximately half a point every 90 days ($.49, SE = .15$). The correlation between the intercept and slope estimates for caregiver-reported treatment engagement ($r = -.72$) suggested that those caregivers with lower initial treatment engagement experienced a faster rate of change in their engagement over time, as compared to those caregivers with higher initial treatment engagement. However, this estimate should be interpreted with caution as measures with ceiling effects can result in this spurious negative relation between intercept and slope (Wang, Zhang, McArdle, & Salthouse, 2008). Specifically, 12% of caregivers initially responded at the maximum on the scale and thus were not able to increase in treatment engagement over time.

The result for the final accepted 3-level unconditional model of change in treatment engagement for youths (Table 3) is similar to the results for caregivers. For youth-reported treatment engagement, the intercept was significantly different from zero ($49.35, SE = .73$), and over time treatment engagement increased approximately half a point per quarter ($47, SE = .23$). In addition, the correlation between the intercept and slope estimates for youth-reported treatment engagement ($r = -.54$) suggested the reports of change for youths with higher initial treatment engagement did not increase as quickly as the treatment engagement for youths with lower initial treatment engagement. Again, this negative correlation might be an artifact of ceiling effects of our measure of treatment engagement (Wang et al., 2008); 8% of youths initially reported engagement at the maximal level.

3.2. Predicting growth in treatment engagement

Once the basic shape of growth of treatment engagement was defined (based on results of the unconditional growth models), we added predictors to the model to explain why caregivers and youths had different initial levels of engagement and different rates of growth of engagement. The estimated growth parameters of the final conditional model of the change in treatment engagement, based on program type and individual-level demographic and clinical characteristics, are presented in Table 4.

3.2.1. Predictors of initial treatment engagement

At a program level, youths receiving more intensive outpatient services such as family-based services (FBS), psychiatric rehabilitation program services (PRPs), treatment foster care (TFC), and behavioral health rehabilitation services (BHRS) reported significantly lower initial treatment engagement compared to youths receiving traditional outpatient services (see first column of Table 4). For example, youths receiving care in a PRP would be expected to, on average, report treatment engagement eight points lower during the first update cycle (90 days into treatment) as compared to a youth receiving traditional services. Type of disorder was not uniquely related to youths’ reports of treatment engagement during the first update cycle. Youth race/ethnicity was significantly associated with youths’ reports of initial treatment engagement, with African American youths reporting significantly lower treatment engagement ($-4.48, SE = 1.76$), and multiracial/biracial youths reporting significantly higher treatment engagement ($6.26, SE = 2.42$) compared to Caucasian youths (Table 4).

There were similar associations between program and individual factors and initial treatment engagement in the model for caregiver reports of engagement. At a program level, those caregivers of youths receiving BHRS reported significantly lower initial treatment engagement compared to caregivers of youths receiving traditional outpatient services (see the second column of Table 4). Additionally, caregivers of youths with any mood disorder reported initial treatment engagement
levels to be 2.78 points higher (SE = 1.20) than caregivers of youths without a mood disorder diagnosis.

3.2.2. Predictors of change over time in treatment engagement

Although youths’ reports of engagement increased, on average, over time, there were few significant client or program predictors of the increase (see bottom half of Table 4, first column). Race/ethnicity was associated with changes in youth-reported treatment engagement over time, such that multiracial/biracial youths had significantly less change in treatment engagement over time (−0.99). Increases in caregiver report of engagement over time could be predicted by diagnosis status only (see bottom half of Table 4, second column). Caregivers of youths with any mood disorder reported smaller increases in treatment engagement (−0.92, SE = .41) over time compared to caregivers of youths without a mood disorder diagnosis. This result could be due to a ceiling effect because caregivers of youths with a mood disorder reported higher levels of initial treatment engagement.

4. Discussion

The aims of this study were to examine whether treatment engagement of youths and caregivers changes over time and which demographic, clinical, and service setting characteristics predict initial levels of and change in treatment engagement for youths and their caregivers. It was hypothesized that treatment engagement would change over time and that families receiving more intensive services would report lower levels of treatment engagement throughout treatment than those receiving less intensive services. Each of the study aims, hypotheses, and related findings are discussed in turn.

Initial treatment engagement, measured 90 days after the start of treatment, was high in this sample of youths and caregivers. Specifically, 12% of caregivers and 8% of youths reported engagement at the maximal level on the scale. This finding is encouraging because the sample included a large proportion of clients who would be at risk for poor engagement. Specifically, youths receiving intensive services were likely transitioned to that level of care following unsuccessful outpatient efforts or as a precursor service to prevent residential service placement. In addition, over time, youths and caregivers in this sample reported increasing levels of treatment engagement. This suggests that within these real-world service delivery contexts, providers were making connections with youths and families who, at the same time, were valuing their involvement in treatment.

The fact that the treatment engagement reported by youths as well as caregivers increased over time is also noteworthy. The involvement of youths in their own treatment is usually critical to the success of services. Yet, because the responsibility for treatment decisions and transportation to services often falls on caregivers, there is the potential for youths to perceive that they have no voice and little choice in treatment. It is remarkable that a sample of high-risk youths reported high initial levels of treatment engagement that increased over time.

Caregiver involvement also is an integral component in the complex dynamics of children’s mental health treatment. Adherence to treatment plan objectives, retention in treatment, and overall increased chances of positive outcomes hinge greatly on the efforts to engage...
The findings from the current study suggest that caregivers reported high initial and consistently increasing treatment engagement over time. The findings from the current study suggest that reports of treatment engagement increased similarly for youths and caregivers across the course of care. This is a notable finding, given the divergence of reports across informants reported in the literature (e.g., Robbins et al., 2006). It may be that across time, the reports of youths and caregivers demonstrate a similar trend whereas any one point in time might reflect more divergence. However, it should be noted that although the group level trends over time reflected improvement in treatment engagement across youths and caregiver reports, this does not preclude the possibility that the association between informant reports at the level of the youths–caregiver dyad might be low.

This study converges with existing evidence of treatment engagement as a dynamic construct (e.g., Chu & Kendall, 2004); thus, examining treatment engagement in depth has the potential to identify risk factors that could inform practices to reduce their interference and promote positive engagement. Examination of potential predictors of youth- and caregiver-reported treatment engagement at intake yielded interesting results. Treatment intensity was associated with treatment engagement reported by youths and caregivers such that those receiving services from higher intensity outpatient services reported significantly lower initial engagement than those receiving care from more traditional, less intensive outpatient services. This finding has many potential clinical explanations. It may be that families receiving intensive services represent more complex cases with higher treatment demands that require a greater burden of treatment. For these families, perhaps treatment demands influence their perceptions of alliance, satisfaction, and burden. It may also be that those families receiving more intensive services have more prior experience with treatment in general and are more likely to have had negative experiences with past services. Their low initial treatment engagement relative to those in outpatient care may reflect expectations that treatment is unlikely to be a positive experience. As another potential explanation, many of these families were facing the possibility of out-of-home placements. Families at risk for out-of-home placement may perceive this as a punitive option, which could be reflected in lower ratings of treatment engagement.

That program intensity is associated with lower levels of treatment engagement is a finding that has practical implications. Families receiving intensive services are at risk for lower initial levels of treatment engagement, which could put them at risk of engagement problems over the course of care. In other words, the more acute the circumstances pertaining to the mental health needs, the less initial alliance or engagement one should expect from a youths or caregiver early in the clinical experience. Managing provider expectations could reduce the likelihood of negative attributions (e.g., “this family does not like me” or “this family is unmotivated”) that could interfere with establishment of a solid working relationship. Additionally, setting provider expectations appropriately could spur providers to take a more active approach to engaging youths and caregivers early in the process.

From this study, it is unknown how engagement is approached by providers across different levels of care and whether more could be done to facilitate treatment engagement, particularly for those youths and caregivers involved in intensive services. Youths who receive intensive services are usually transitioned to that level of care following unsuccessful outpatient efforts or as a precursor service to prevent residential service placement. These transitions are often difficult. Additionally, communication and coordination across treatment providers are often not sufficient to make these transitions seamless. Future research that examines how engagement is approached and how transitions are handled has the potential to identify challenges, which then can serve as opportunities to apply engagement practices that have empirical support for their effectiveness. Additionally, given that treatment engagement changes over time, these findings underscore the importance of monitoring engagement over time to identify lapses that require intervention.

Empirical support in the literature for youths’ demographic factors influencing treatment engagement is mixed. In this study, youths’ age and gender did not show statistically significant predictive value for explaining initial levels of engagement. However, race was a significant predictor of initial alliance levels. Specifically, multiracial youths reported significantly higher levels of initial alliance compared to Caucasian youths. In contrast, African American youths reported significantly lower levels of initial engagement compared to Caucasian youths. The results of this study provide further evidence that African American youths in particular may have less positive perceptions of services from the outset and may be at risk for treatment attrition (Lindsey, Chambers, Pohle, Beall, & Lucksted, 2013). Much has been published about the importance of culturally responsive and appropriate values and therapeutic approaches to working with clients who are racial and ethnic minorities (Alegria, Atkins, Farmer, Slaton, & Stelk, 2010; Jackson-Gilford, Liddle, Tejeda, & Dakof, 2001; Sue, 1998). Therefore, attention to cultural appropriateness and the strategic promotion of the therapeutic alliance, client satisfaction, and perceptions of benefit may be important early in the therapeutic process. In particular, research suggests that discussing prior experiences, beliefs, values, and norms related to mental health and service utilization, incorporating cultural
themes into therapy, considering the effect of stigma, and understanding how values emphasized in mental health services may conflict with cultural values and practices, may be important when working with clients who are racial and ethnic minorities (Asnaani & Hofmann, 2012; Barksdale & Molock, 2009; Liddle, Jackson-Gil福特, & Marvel, 2006; McCabe, Yeh, Lau, & Argote, 2012).

For caregivers, only youth’s diagnosis was found to influence initial levels of caregiver-reported engagement. Caregivers of youths with mood disorders reported higher levels of initial engagement compared to caregivers of youths without a mood disorder. There are many potential explanations for this finding. Perhaps there are differences in caregiver beliefs about the effectiveness of treatments for mood disorders versus other disorders. Related, unlike many evidence-based treatments for externalizing problems, the approach to treating mood disorders may be more client-focused, thereby conveying less burden and responsibility for success on the caregiver. This may translate into more positive attitudes about services.

There were few noteworthy predictors of change in treatment engagement over time. Multiracial youths and caregivers of youths with mood disorders reported slight reduction over time; however, these groups reported high levels of initial treatment engagement so this reduction likely reflects a regression to the mean. It is likely that there are multiple factors that contribute to change in treatment engagement that were not measured in this study. Potential factors include treatment demands (e.g., frequency of sessions, amount of work to be completed outside of session), practical concerns (e.g., ease of scheduling or transportation), competing priorities or life events (e.g., work, divorce, youth activities) (Kazdin, Holland, Crowley, & Breton, 1997; Staudt, 2007).

Another important facet of treatment engagement unmapped in this study but worthy of additional study with a similar sample involves the specific practices that providers might use to promote positive engagement with youths and caregivers. As demonstrated by this and other studies, treatment engagement is dynamic and research suggests that it is also malleable. Practices such as providing psychoeducation about service characteristics and the roles and responsibilities of the clients, using motivational enhancement practices, assessing barriers to treatment, and modeling all have empirical support related to enhancing engagement (see Becker et al., 2013 for a review).

4.1. Limitations

The results of this study should be considered in the context of its limitations. One main limitation is that this study examined changes in engagement in a sample of youths who remained in treatment for at least 90 days (i.e., long enough to have provided initial engagement data). Such a sample may be qualitatively different from that in which youths and caregivers terminate treatment prematurely in terms of their constellation of risk factors (e.g., higher socioeconomic status, less psychopathology, etc.) as well as their levels of resilience in the face of significant stressors. Therefore, this study can only address questions related to change in treatment engagement for youths and caregivers who remain in treatment for a minimum of approximately three months.

Another limitation has to do with the measurement of treatment engagement in this study. Due to concerns of alpha inflation and the small number of items related to perceptions of alliance, satisfaction, and active participation, these subscales were combined into one larger construct of treatment engagement. Although the measure had high reliability, the combination prevented the examination of these three domains separately, as is more common in the literature. Additionally, our measure also yielded a ceiling effect whereby a substantial proportion of youths and caregivers reported the highest levels of treatment engagement at intake, leaving them with no room to improve. Related, slight decreases in treatment engagement could reflect a regression to the mean rather than true worsening of engagement. In spite of these measurement limitations, the findings of this study advance our understanding of changes in treatment engagement in children’s mental health services.

Two limitations exist relating to diagnoses. First, it was not possible to standardize the procedures for assigning diagnoses. Youths’ diagnoses were taken at face value as they were entered into the KIDNet system. It is possible that there is variability in the assignment of primary diagnoses across therapists and agencies that could influence related results. Second, a binary variable was created to reflect the presence or absence of each disorder category. This approach limited our ability to analyze the predictive nature of more complex clinical presentations (e.g., comorbidity) on treatment engagement.

Similar to the issue of potential variability across diagnostic practices, it is likely that variability of service characteristics within and across program types could influence the interpretation of results. For example, treatment dosage within behavioral health rehabilitation services ranges from 3 to 20 h per week. It is possible that treatment engagement varies according to the dosage. Similarly, specific information about other service characteristics (e.g., clinical orientation, therapeutic practices) not collected in this study might be important variable to consider in future studies to help elucidate why engagement varies according to service setting. Despite opportunities to enhance the understanding of the association between service characteristics and treatment engagement, the inclusion of multiple program types as a predictor of treatment engagement is novel in the literature and its significance as a predictor underscores the importance of looking at other service characteristics in some capacity in future studies.

Finally, this study did not examine the association between treatment engagement and behavioral indicators of engagement (e.g., attendance) or treatment outcomes (e.g., symptoms, functioning). The scope of this study was limited to understanding the predictive nature of demographic, clinical, and program characteristics on initial levels of and changes in treatment engagement as reported by youths and caregivers. Research suggests that therapeutic alliance, for example, predicts treatment retention (Robbins et al., 2003; Shelef et al., 2005) and post-treatment symptoms (e.g., Shelef et al., 2005). Yet, little is known about the association between other domains of treatment engagement (e.g., perceptions of satisfaction and benefit) and behavioral engagement or treatment outcome. Even less is known about changes in treatment engagement over time. This study provides a stepping stone for future research to examine the association between treatment engagement, behavioral engagement, and treatment outcomes.

4.2. Conclusion

This study examined treatment engagement in a sample of youths and caregivers with complex needs receiving services in real-world treatment settings. Notable results include lower initial treatment engagement for families receiving intensive services yet noteworthy increases in treatment engagement over time. A research agenda that focuses on ways to promote engagement with these families is a high priority, as service underutilization is a chronic problem (Merikangas et al., 2010; Pellerin et al., 2010). This study highlights the importance of expanding the research base to examine engagement in existing service settings. Beyond this, there is an opportunity to weave the science of engagement interventions with clinical practice to elucidate youth, caregiver, family, therapist, and treatment characteristics that promote or hinder treatment engagement. Efforts to more fully explicate treatment engagement in services have the potential to optimize the successful treatment participation of youths and families in need.

References


