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Parent Mental Health Problems and Motivation as Predictors of Their Engagement in Community-Based Child Mental Health Services

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Abstract

Parent or caregiver engagement in child mental health treatment is an important element of treatment effectiveness, particularly for children with disruptive behavior problems. Parent or caregiver characteristics, such as their mental health and/or motivation to participate in treatment, may impact engagement and subsequent treatment outcomes. However, a lack of empirical research exists examining these potential links, particularly in community-based treatment settings. The current pilot study: 1) examines whether parent mental health problems and/or early parent motivation to participate in treatment predict three indicators of parent engagement in child treatment, controlling for the other predictor; and 2) examines and compares the differential influence of parent mental health and parent motivation on each parent engagement indicator. Participants in this study include 19 dyads from 18 therapists who were recruited from community mental health clinics. Results indicated a significant association between parent mental health and session attendance, and a marginally significant association between parent mental health and therapist-rated parent engagement. Parent mental health predicted outcomes above and beyond parent motivation. These findings preliminarily suggest that parent mental health problems early in child mental health treatment may be important to consider as an impactful target to promote parent treatment engagement, in addition to focusing on parent motivation to participate in treatment.

Keywords

parent treatment engagement; child behavior problems; community-based treatment; parent motivation; parent mental health

1. Introduction

1.1 Background and Significance

Understanding factors associated with treatment effectiveness for mental health disorders is critical given that mental health disorders are the most costly condition in the United States (Roehrig, 2016). For child mental health disorders, parent and caregiver (hereafter referred to as parent) engagement in their child's treatment is an important element of treatment effectiveness (Gopalan et al., 2010; Haine-Schlagel & Walsh, 2015; Karver, Handelsman, Fields, & Bickman, 2006; Nock & Ferriter, 2005). Parent engagement in child treatment broadly refers to any type of parent involvement in treatment and/or parent behaviors that promote child involvement in treatment. Parent engagement has been described as including five domains, Relationship, Expectancy, Attendance, Clarity, and Homework (REACH; Becker, Boustani, Gellatly, & Chorpita, 2018), and can also be organized into attitudinal and behavioral components (e.g., Haine-Schlagel & Walsh, 2015; Staudt, 2007). Attitudinal engagement encompasses the therapeutic relationship, expectations about treatment, and perceptions of treatment benefits (e.g., Becker et al., 2018; Staudt, 2007). Behavioral engagement includes observable behaviors such as session attendance and active participation in treatment (e.g., homework completion; participation in session activities and discussions; Haine-Schlagel & Walsh, 2015) and is particularly important for children with disruptive behaviors. Disruptive behaviors are one of the most common presenting problems for children, and many evidence-based treatments for children with disruptive behavior problems focus on helping parents promote more positive child behavior through behavior management strategies (Garland et al., 2001; Kaminski & Clausen, 2017).

Although parent behavioral engagement in child treatment has been associated with improved treatment effectiveness across several literature reviews (e.g., Haine-Schlagel & Walsh, 2015; Karver et al., 2006; Nock & Ferriter, 2005), actual parent engagement in mental health services for children with disruptive behavior problems is lacking. For example, a recent systematic review indicated that at least 51% of parents drop out of behavioral parent training programs for disruptive behavior problems prematurely (Chacko et al., 2016). There is also evidence that engaging parents in community-based child mental health services may be particularly challenging. Additionally, therapists report feeling overwhelmed by parents' needs, including parents' own mental health problems, and frustrated by the perceived lack of parent motivation to participate in treatment (Baker-Ericzen, Jenkins, & Haine-Schlagel, 2013). An observational study of community-based child mental health treatment sessions for children with disruptive behavior problems found significant variability in the amount of time therapists included parents in session activities, with an average of less than half of the session time (Haine-Schlagel et al., 2012). Thus, research is needed to understand how to promote parent engagement in community-based services to facilitate optimal child mental health treatment outcomes.

A growing body of studies have documented predictors of parents' behavioral engagement to inform the development and implementation of effective engagement interventions in community mental health services (e.g., Gopalan et al., 2010; Haine-Schlagel & Walsh, 2015; Karver et al., 2006; Pereira & Barros, 2019). One limitation of the extant literature on

predictors of engagement is that the majority of such studies to date have focused on attendance as the primary behavioral engagement outcome. Indeed, a lack of assessment of parent engagement indicators beyond attendance has been highlighted as a limitation in the literature in recent systematic reviews (e.g., Becker et al., 2015; Chacko et al., 2016). Although attendance is an important element of behavioral engagement that is necessary to achieve positive outcomes, it is also important to examine parents' participation in the treatment itself (Becker et al., 2015; Haine-Schlagel & Walsh, 2015; Staudt, 2007).

Another limitation of the extant literature on predictors of behavioral engagement is a lack of studies examining the relative contribution of different factors predicting or promoting engagement, which is critical to help guide efforts to promote parents' engagement in their children's mental health treatment. Numerous studies have examined predictors of parent behavioral engagement in child mental health treatment, including child-level factors such as demographics and baseline level of symptoms/functioning, and parent/family level factors such as poverty, single parent status, and family cohesion (e.g., Gopalan et al., 2010; Haine-Schlagel & Walsh, 2015). Further, a handful of studies have examined the associations between behavioral engagement and parent characteristics, such as parental internalizing symptoms and motivation to participate in their child's treatment (e.g., Brookman-Frazee, Haine, Gabayan, & Garland, 2008; Dumas & Albin, 1986; Pereira & Barros, 2019; Podell & Kendall, 2011; Stoolmiller, Duncan, Bank, & Patterson, 1993). Parental internalizing symptoms (i.e., symptoms of depression and anxiety) are the most common mental health problems in parents of children receiving mental health treatment (Rishel et al., 2006; Swartz et al., 2005), whereas motivation has been identified in many theoretical frameworks as a key contributor to engaging in child mental health treatment (Pereira & Barros, 2019). Although parental internalizing symptoms and motivation are likely inter-related constructs, they also have distinct properties that require different intervention strategies. The existing literature has not assessed these characteristics' relative contributions to predicting engagement to inform engagement intervention efforts (e.g., Pereira & Barros, 2019).

Existing studies of the association between parental internalizing symptoms and parent behavioral engagement have yielded equivocal results. Dumas and Albin (1986) found no significant associations between maternal history of psychological symptoms and attendance in a structured home-based parent-training program for children with disruptive behavior problems. Similarly, a randomized clinical trial examining the efficacy of a manualized family treatment program found no significant associations between parent psychological diagnosis and attendance or therapist-rated parent involvement (Podell & Kendall, 2011). Another study examining links between parent depression and attendance in community-based child mental health services for disruptive behavior problems also found no association (Brookman-Frazee et al., 2008). In contrast, one observational study found an association between baseline maternal depressed mood and maternal resistance to treatment in structured parent training for child disruptive behavior problems (Stoolmiller et al., 1993). Of note, the majority of these studies focused solely on attendance as a measure of behavioral engagement and an association between parental mental health and engagement was only observed with other indicators of engagement beyond attendance.

The extant research is even more limited regarding parents' motivation to participate in their child's services. Studies have demonstrated that overall positive parental attitudes towards child mental health treatment are associated with attendance (McKay, Pennington, Lynn, & McCadam, 2001; Thornton & Calam, 2011), but to date almost no empirical research has been conducted to document the proposed prospective links specifically between motivation and behavioral engagement (Pereira & Barros, 2019). Parents' motivation to engage in treatment appears to be partly influenced by the desire for their child's behavior to change, but can also include the parent's motivation to change their own behavior and beliefs about their ability to change (Nock & Photos, 2006). One study found that an increase in parent motivation to participate in a structured treatment protocol for disruptive behavior problems across sessions was associated with decreased perceived barriers to participation, which in turn was associated with better attendance (Nock & Photos, 2006). Some studies have examined parent motivational interventions as a universal enhancement to child mental health treatment (e.g., Chaffin et al., 2009; Dorsey et al., 2014; *authors masked*, 2018). Results have indicated benefits for multiple parent behavioral engagement outcomes, including treatment retention, attendance, and ongoing participation in treatment, in particular when parents with low motivation receive the motivational enhancement (e.g., Chaffin et al., 2009; Dorsey et al., 2014; *authors masked*, 2018).

Taken together, the extant literature on parent mental health problems and parent motivation as predictors of parent behavioral engagement indicates several major knowledge gaps. First, an overall dearth of empirical studies examining concurrent links between the three constructs of interest exists. Second, existing studies have examined a limited range of behavioral engagement measures, focusing primarily on attendance. Third, given that parental internalizing symptoms and motivation are inter-related yet distinct parent characteristics that require different intervention strategies, it is problematic that the relative contribution of these two factors to parent behavioral engagement has not been assessed. Studies are needed to examine the relative impact of these constructs using a wider range of indicators of behavioral engagement, in particular those directly assessing parents' in-session participation.

1.2 The Current Study

The current study addresses these knowledge gaps by preliminarily examining the relative contributions of parent internalizing mental health problems (i.e., symptoms of anxiety and depression) and parent motivation to several indicators of parent behavioral engagement in community-based mental health treatment for children with disruptive behavior problems. Specifically, the primary objectives of this pilot study are to: 1) examine whether parent internalizing problems and/or parent motivation to participate in treatment predict three indicators of parent engagement in child treatment (attendance, therapist-reported overall engagement, and observed participation in sessions) after controlling for the other predictor, and 2) compare the predictive ability of parent internalizing problems and parent motivation to explain variance in each parent engagement measure.

2. Methods

The data for the current study are drawn from a randomized pilot study that tested the effectiveness of the *masked for review* toolkit (*authors masked*, 2018), which was designed to increase parent participation in community-based child mental health treatment for children with disruptive behavior problems. The toolkit included therapist training on a set of general engagement techniques (i.e., alliance, collaboration, and empowerment). The toolkit also included tools for therapists and parents to facilitate their working together, such as parent workbook activities completed early in treatment in combination with a DVD, an action sheet for the child, parent, and therapist to review and discuss homework together, and brief motivational messages sent to parents (*authors masked*, 2018).

2.1 Participants

Twenty parent-child dyads and 19 therapists participated, and were randomized to either standard care or the toolkit plus standard care. The current study examined the 19 dyads from 18 therapists with complete data. Therapists were recruited from five community child mental health clinics in a large urban area in southern California. For therapists to be eligible to participate in the study, they needed to be planning to work at their organization for the next five months, provide clinic-based psychotherapy, and be accepting new clients that matched the parent-child dyad eligibility criteria described next. For parent-child dyads to be eligible to participate, parents must have identified disruptive behavior problems as a presenting problem for their child's treatment, the child must have been between 4 and 13 years old, the parent must have been the child's legal guardian, and the parent must have spoken English. Participant demographics and information about therapist professional background can be found in Table 1.

2.2 Procedures

Once therapists were recruited from participating community-based mental health clinics, those who were eligible for the study and gave consent to participate were randomly assigned to use either the toolkit plus standard care or standard care only, using a matched coin flip. Families were recruited from participating therapists' caseloads. Parents gave consent and children gave assent to participate in the study if they were above seven years of age. Parents and therapists were provided up to \$40 or \$80 in compensation, respectively, for their participation in data collection. Compensation varied depending on condition as well as participant type (i.e., therapist or parent) given differences in data collection tasks for each group. The data utilized in the current study include a baseline survey, therapist-reported monthly surveys, video-recorded therapy sessions, and a 4-month follow-up survey. The study was approved by both a university's and a regional hospital's Institutional Review Board, and study procedures adhered to standards put forth by the Belmont Report.

2.3 Measures

Covariates.—Study condition (toolkit plus standard care versus standard care only) and parent ethnicity (Hispanic/Latinx versus non-Hispanic/Latinx) were included as covariates given prior findings suggesting the influence of both variables on parent engagement in this sample (*authors masked*, 2017; *authors masked*, 2018).

Predictor variables.—Parent internalizing problems and motivation to participate in their child’s mental health treatment were both assessed at baseline.

Patient Health Questionnaire: (PHQ; Kroenke & Spitzer, 2002; Spitzer, Kroenke, Williams, & Löwe, 2006). Parents reported on their internalizing problems using two subscales of the PHQ, the PHQ-8 for depression and the GAD-7 for anxiety. These subscales utilize a four-point Likert scale, with higher scores reflecting greater symptomatology. Sample items include “little interest or pleasure in doing things”, “feeling down, depressed or hopeless” and “worrying too much about different things.” Given the high correlation between the depression and anxiety subscales in the current sample (Pearson’s $r=.89$, $p < .05$), an internalizing symptoms composite was calculated by averaging the two subscale scores. The PHQ-8 and GAD-7 have adequate reliability and validity (Kroenke & Spitzer; Spitzer et al.), and the Cronbach’s alpha for the composite variable in the current study was .96. These two subscales were selected because depression and anxiety are the most common mental health problems in parents of children receiving mental health treatment (Rishel et al., 2006; Swartz et al., 2005).

Parent Motivation Inventory: (PMI; Nock & Photos, 2006). Parents reported on the extent to which they felt motivated to participate in their child’s mental health treatment by completing the PMI, a 25-item measure using a five-point Likert scale with higher scores reflecting greater motivation. The PMI consists of three subscales: desire for change, readiness to change, and perceived ability to change. Sample items include “It is very important for the well-being of my child that he or she changes his or her behavior” (desire for change), “I am motivated to practice what I learn in session at home with my child” (readiness to change), and “I believe that I can learn to change my child’s behavior” (perceived ability to change). The total score across subscales was utilized in the current study. Psychometrics from a previous study of the PMI indicate adequate reliability and validity for the total score (Nock & Photos, 2006), and the Cronbach’s alpha was .84 in the current study. The total score was utilized due to the strong predictive validity indicated by Nock and Photos (2006), as well as to reduce the number of analyses needed given the small sample size of the current study.

Behavioral engagement outcome variables.—Three behavioral outcome variables were measured: attendance, therapist-reported overall engagement, and observed participation engagement in sessions.

Attendance.: Parent-child attendance was reported by therapists monthly over the four-month study period and converted into an attendance ratio using the number of sessions attended divided by the total number of sessions scheduled. Higher ratios represent greater attendance.

Engagement Measure: (Hall, Meaden, Smith, & Jones, 2001). Therapist-reported overall parent engagement at a four-month follow-up was assessed using the Engagement Measure. This 11-item measure, slightly adapted from the original version for use with parents, is anchored on a five-point Likert scale, with higher scores indicating greater perceived engagement by the therapist. Sample items include “How often does the child’s parent

discuss child symptoms?” and “How often is the child’s parent actively involved with treatment or proposed intervention?” Reliability for the original Engagement Measure with adults with serious mental health disorders is adequate (Hall et al., 2001), and the Cronbach’s alpha was .96 in the current study. The measure has strong convergent validity with adult mental health patients (Tetley, Hinks, Huband, & Howells 2011).

Parent Participation Engagement in Child Psychotherapy Observational Coding

System: (PPEM-Coding; *authors masked*, 2014). Observed parent participation in sessions was measured by applying the PPEM-Coding coding scheme to video-recorded treatment sessions. The PPEM-Coding consists of five items and is anchored on a five-point Likert scale, with a higher score reflecting more parent participation. The five items are: 1) to what extent did the parent share his/her perspective in general, 2) to what extent did the parent share his/her perspective about any planned homework, 3) to what extent did the parent appear to agree with/be enthusiastic about any planned homework, 4) to what extent did the parent ask the therapist questions, and 5) to what extent did the parent demonstrate commitment to therapy during the session (*authors masked*, 2014). Sessions were coded at the end of the study by five trained undergraduate students. Further details regarding the coder training process can be found in a previous study (*authors masked*, 2018). The interrater reliability for each item was in the fair to good range (M of ICCs = .63, range = .51-.72), according to Cicchetti’s (1994) guidelines. A composite score was created for each parent by averaging the parent’s score on each item across all coded sessions, and then averaging those scores. This measure has been used in several published studies as an outcome measure (e.g., *authors masked*, 2018) but no specific validity studies have been conducted. The Cronbach’s alpha for the composite in the current study was .84.

2.4 Data Analytic Plan

To examine the independent contributions of parent internalizing symptoms and treatment motivation to the three behavioral engagement outcomes, partial correlations were calculated between each predictor and each outcome, controlling for the other predictor as well as the two covariates. Partial correlations are a method of partitioning out the unique variance in an outcome contributed by other predictors, holding constant another predictor or set of predictors. To compare the relative contributions of parent internalizing symptoms and motivation to the three behavioral engagement outcomes, Fisher r-to-z transformations were applied to the resulting partial correlations to compare the strength of the correlations with internalizing symptoms as the predictor to the strength of the correlations with parent treatment motivation as the predictor. Fisher r-to-z transformations calculate a z-value that can be used to quantify the difference in magnitude between two correlation coefficients (Meng, Rosenthal, & Rubin, 1992). Power analyses indicated that the current power to detect a medium and large effect was .35 and .77, respectively.

To further evaluate the relative contributions of parent mental health and treatment motivation in explaining the variance in each engagement outcome, a comparison of changes in variance explained by hierarchical regression models (R^2) was conducted. Treatment condition and ethnicity were entered as covariates at the first step, parent internalizing symptoms at the second step, and parent motivation at the final step. Contrary models with

motivation entered at the second step and parent internalizing symptoms entered at the third step were also conducted. These two sets of models allowed the examination of which predictor variable predicts the engagement outcomes above and beyond the other predictor variable. Power analyses indicated that the current power to detect a medium and large effect was .47 and .77, respectively.

Note that these two data analytic approaches (partial correlation and regression) produce very similar results, and that both statistical approaches are utilized for ease of interpretability. This analytic plan was modeled on a previous study that similarly examined the differential impact of two related predictor variables (Dickson & Ciesla, 2018).

3. Results

3.1 Preliminary Analyses

All analyses were conducted in Stata 11.0 (StataCorp, 2009). Preliminary analyses were conducted to assess for normality, linearity, and outliers in the data. Results indicated a normally distributed sample with no extreme outliers for all measures except for the Engagement Measure, in which one extreme outlier was transformed via winsorization (Ghosh & Vogt, 2012).

Descriptive information and bivariate Pearson's correlations for study variables can be found in Table 2. Bivariate analyses indicated: 1) a significant association between ethnicity and PPEM-Coding reflecting that non-Hispanic/Latinx parents demonstrated higher participation behaviors than Hispanic/Latinx parents; 2) a significant association between parent internalizing symptoms and lower therapist-reported engagement; and 3) a significant association between therapist-reported engagement and higher attendance. A trend towards a significant association between internalizing symptoms and higher motivation was also found.

3.2 Engagement Outcome: Attendance

As seen in Table 3, results from partial correlations indicated that higher parent internalizing symptoms at baseline was significantly associated with lower attendance, whereas motivation was not significantly associated with attendance. Fisher r-to-z transformation analyses indicated that the internalizing symptoms-attendance partial correlation was significantly stronger than the motivation-attendance partial correlation ($z = 1.74, p = .04$).

As seen in Table 4a, the comparison of R^2 change when adding internalizing symptoms followed by motivation in a hierarchical linear regression model indicated that parent internalizing symptoms predicted attendance significantly above and beyond the covariates whereas motivation did not significantly increase the variance explained in the model. Similar findings were observed in contrasting models where motivation and internalizing symptoms were entered in Steps 2 and 3, respectively (see Table 4b).

3.3 Engagement Outcome: Therapist-Reported Engagement

As seen in Table 3, a trend towards a significant partial correlation between parent internalizing symptoms at baseline and lower therapist-reported engagement was found.

Similar to the attendance outcome, motivation was not significantly associated with therapist-reported engagement. Fisher r-to-z transformation analyses indicated that the internalizing symptoms-engagement partial correlation was significantly stronger than the motivation-engagement partial correlation ($z = 1.85, p = .03$).

As seen in Table 4a, the comparison of R^2 change when adding internalizing symptoms followed by motivation in a hierarchical linear regression model indicated that the inclusion of parent internalizing symptoms, but not motivation, was associated with a trend towards a significant increase in variance explained in the model. Similar findings were observed in contrasting models where motivation and internalizing symptoms were entered in Steps 2 and 3, respectively (see Table 4b).

3.4 Engagement Outcome: Observed Parent In-Session Participation

No significant partial correlations were found between parent internalizing symptoms or motivation and observed in-session participation (see Table 3) and Fisher r-to-z transformation analyses indicated no significant differences in magnitude between these partial correlations ($z = .78, p = .22$). Neither R^2 change within the two hierarchical linear regression models predicting observed in-session participation were significant (see Tables 4a and 4b).

4. Discussion

4.1 Brief Summary of Results

The overall goal of the current study was to preliminarily examine the unique and relative prospective contributions of parent mental health problems and parent motivation to participate in treatment to multiple indicators of parent engagement. The preliminary results generated by this pilot study indicated that parent self-reported internalizing symptoms were significantly associated with lower attendance and marginally associated with lower therapist-reported overall engagement. Parent internalizing symptoms was not significantly associated with parent in-session participation. Results also preliminarily suggested that early parent motivation to participate in treatment was not significantly associated with any of the three engagement outcomes. Analyses comparing the unique predictive ability of parent mental health problems and parent motivation preliminarily suggested that parent internalizing symptoms was the more robust predictor of the attendance and therapist-reported engagement outcomes.

4.2 Significance of the Results

The study findings preliminarily suggest an association between parent internalizing symptoms and attendance of child mental health treatment sessions. This may be due to symptoms of anxiety and depression potentially contributing to families' decision to attend treatment sessions. It is also possible that symptoms of anxiety and depression are associated with more stressors that impede consistent attendance. Further, although a marginally significant finding, the results preliminarily suggest that parent mental health problems may play a role in the degree to which parents are *actually* engaged in treatment beyond attendance as demonstrated by therapist report. The associations between parent

internalizing symptoms and both session attendance and therapist-reported overall engagement extend the current knowledge base by examining both parent engagement outcomes in a community-based setting. This is important because there is also evidence that engaging parents in community-based child mental health services may be particularly challenging (Baker-Ericzen et al., 2013).

Study findings are somewhat in contrast to previous research. Three studies that examined links between parent mental health problems and attendance did not find a significant association (Brookman-Frazee et al., 2008; Dumas & Albin, 1986; Podell & Kendall, 2011). The one previous study that examined the association between parent mental health problems and therapist-reported engagement did not find a significant link (Podell & Kendall, 2011). The one previous study that focused on parent behaviors in sessions did find a significant association between depression and maternal resistance to treatment (Stoolmiller et al., 1993). The discrepancies between the current study's findings and these previous studies may be due to differences in the nature of the treatment being examined. Three previous studies (Dumas & Albin, 1986; Podell & Kendall, 2011; Stoolmiller et al., 1993) examined structured parent/family treatments, which may have impacted parents' initial decision to participate in treatment and potentially reduced the variability in parent mental health problems. Structured treatments may also inherently include supports for attendance such as greater accountability.

Interestingly, parental mental health has received limited direct attention within efforts to promote parent engagement. Ingoldsby's (2010) review of engagement interventions for child mental health problems found several interventions that focused on enhancing parent motivation, but no engagement interventions focused on addressing parent mental health issues. Similarly, Lindsey et al.'s (2014) review of engagement strategies tested across the parent engagement interventions literature found that some of the most frequently employed strategies focused on promoting motivation (e.g., psychoeducation about services; promoting service accessibility), but that none addressed parent mental health problems. The current study's preliminary results indicate that the development and implementation of strategies to enhance parent engagement may need to extend beyond the current focus on addressing motivational challenges to addressing parents' mental health challenges as well.

The lack of observed links between parents' early motivation to participate in their child's mental health treatment and the three behavioral engagement outcomes is inconsistent with the one previous study that examined associations between motivation and engagement (Nock & Photos, 2006). However, Nock and Photos did not identify a direct association, but rather found that parent motivation significantly predicted parents' perceived barriers to participating in treatment, which in turn predicted engagement. This suggests that unmeasured mediating variables, such as perceived barriers, may have possibly affected the association between motivation and engagement in the current sample.

It is somewhat curious that preliminary links between parent mental health problems and both attendance and to some extent therapist-reported engagement were found, but not for observed in-session participation behaviors. Some potential methodological explanations include the study's small sample size and that the psychometrics of the PPEM-coding

measure have not been fully examined. It is also possible that therapists were observing more subtle signs of engagement that were not clear to observers or specified in the observational coding system. Therapists may also have been responding in part based on parents' affect. For example, therapists may have noticed a parent's flat affect and interpreted it as a lack of motivation, even if the parent was as engaged as other parents were as indexed by the observational coding of parent participation. It is also possible that parents with more internalizing symptoms may not have felt as engaged with the therapist, which therapists may have noticed and incorporated into their responses on the Engagement Measure, but those parents may have concretely exhibited the participation behaviors coded in the PPEM-Coding measure. Further, behaviors that happened outside of sessions, which therapists but not coders were aware of, may also have contributed to the different results.

It is also important to consider that parents from different cultures and family backgrounds may exhibit different participation behaviors and barriers that may have impacted the cross-cultural validity of the PPEM-Coding measure and masked other associations. For example, some parents may be less likely to ask questions and raise concerns because they may view therapists as authority figures. A previously published study examining the same dataset as the current study assessed associations between demographic factors, parent depression, parent motivation, and the PPEM-Coding measure (*authors masked*, 2016). In contrast to the current study focused on examining and comparing the relative contributions of parental mental health and motivation on treatment engagement using multiple measures of engagement, this prior study aimed to identify therapist, child, and a wider set of parent factors associated with one measure of engagement. Significant associations were only found between parent ethnicity and observed parent engagement, with Hispanic/Latinx parents participating less in their child's treatment than non-Hispanic/Latinx parents. This finding may have reflected true differences in participation, or simply identified cultural differences in some types of participation behaviors. Although the current study controlled for ethnicity, other differences in parent participation behaviors may have been masked if the culturally related differences in behaviors were not distinct to the observational coders.

4.3 Clinical Implications

These preliminary results suggest that parent mental health problems may be a stronger predictor of parent engagement than initial parent motivation to participate in treatment in this pilot study. This does not mean that parent motivation is not important, but rather that parent mental health could be particularly important. These results suggest that replication in a larger sample is critical. If a similar pattern of findings holds in a larger sample, efforts to promote parent engagement in child mental health treatment, in particular in community-based settings for children with disruptive behavior problems, may consider focusing on assessing and addressing parent mental health problems before attending to parents' motivation to participate. Previous research examining parents of children served in community-based settings has documented relatively high rates of parent mental health problems (e.g., Baker-Ericzen, Hurlburt, Brookman-Frazee, Jenkins, & Hough, 2010), suggesting that attention to parent mental health problems may be an important target for promoting parent engagement. More specifically, if indicated by future research, therapists could conduct a brief parent mental health screening at intake, such as the PHQ utilized in

this study (Kroenke & Spitzer, 2002; Spitzer et al., 2006), which may help to identify possible parent mental health problems and inform potential actions to address those mental health issues. Further, such screening may be beneficial for therapists to increase parents' awareness about how their own functioning plays a role in supporting changes in their children's behavior, and may increase the effectiveness of child mental health treatment as a result.

Parent mental health screening may also be a useful tool to facilitate the implementation of existing engagement interventions. As mentioned earlier, addressing parent mental health problems is not an explicit focus of most existing engagement interventions. However, the current findings preliminarily suggest that efforts to implement existing engagement strategies may possibly benefit from early parent mental health screening. Again, if the pattern of findings is replicated in a larger study, conducting such screening may help determine if additional supports are needed to facilitate the successful implementation of engagement strategies.

It is also important to consider how both parent mental health problems and parent motivation to participate in treatment may collectively impact engagement in the context of other factors that can contribute to engagement, such as child symptoms/functioning, poverty, single parent family structure, parent-parent discord, poor family cohesion, and high family chaos. For example, in the case of child symptomology or level of behavior problems, it is possible that parents may be more motivated to make sure their children are participating in treatment by being engaged in that treatment despite their own mental health challenges. However, it is equally possible that parent mental health symptoms may be particularly compounded by other personal or familial factors or stressors, including more extensive behavior problems or mental health symptoms in their child, making it even more challenging to attend treatment sessions and be fully engaged in their child's treatment. Further research examining possible mechanisms of effect regarding this preliminary association between parent mental health problems and parent engagement in child treatment may be indicated to further disentangle these potentially complex associations in different contexts.

4.4 Study Strengths and Limitations

The current pilot study has several strengths. Sample representativeness is one major strength. Demographic characteristics of the sample are similar to the population of therapists and clients in community-based mental health clinics in terms of children's and therapists' age, child gender, child's diagnosis, and therapists' education (Glisson et al., 2008; Zima et al., 2005). Moreover, the parent mental health problems (internalizing symptoms of depression and anxiety) assessed in this study reflect the most prevalent problems in parents of children receiving mental health treatment (Ferro, Verdelli, Pierre, & Weissman, 2000; Rishel et al., 2006; Swartz et al., 2005). Another strength of this study is the use of multiple measurement methods of parent behavioral engagement, including the therapists' point of view and observational assessment of in-session participation behaviors, as well as the more standard attendance indicator. Using various sources of data allows for an in-depth representation of the outcome of interest.

Although this study has several strengths, some important limitations should be mentioned. First, given the pilot nature of the study, only a small sample size was available, resulting in limited statistical power below what is needed to identify significant associations. Thus, the resulting nonsignificant associations may be due to a lack of statistical power to detect those associations, particularly for associations that may have small effect sizes. The small sample size also makes it difficult to generalize the results and increases the chance of measurement error. Second, the results may only be generalized to the population of English-speaking parents whose children present with disruptive behavior problems in community mental health clinics and who are willing to voluntarily join a study focused on parent engagement. However, prevalence rates for mental health disorders in child community mental health service settings are highest for ADHD and disruptive behavior disorders (Garland et al., 2001), suggesting that the results may still be broadly generalizable to a large portion of children receiving community mental health care. Third, because this study was set in community mental health settings that provide a wide range of care, the intervention strategies delivered by participating therapists is unknown. Fourth, since paternal mental health problems are positively correlated with children's psychopathology (Kane & Garber, 2004), the limited amount of father participation in this study provides little information about the impact of fathers' mental health problems and their engagement in their child's mental health treatment.

4.5 Conclusions

This pilot study aimed to examine both the unique and relative associations of parent mental health problems and parent motivation to participate in treatment with parents' behavioral engagement in their children's mental health treatment. Although preliminary given the pilot nature of this study, the results suggest that parent mental health problems may affect parent engagement, and that mental health support for parents whose children are receiving mental health treatment may potentially improve parent engagement in addition to motivationally-focused engagement strategies.

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Table 1.

Participant Demographics

Characteristic	Therapist (n=18) n/%		Parent (n=19) n/%		Children (n=19) n/%	
Gender						
Male	2	(11.1)	2	(10.5)	16	(84.2)
Female	16	(88.9)	17	(89.5)	3	(15.8)
Age (Mean/SD)	36.3	(10.6)	35.4	(10.9)	8.58	(2.28)
Condition						
PACT	10	(55.6)	11	(57.9)	11	(57.9)
Standard Care	8	(44.4)	8	(42.1)	8	(42.1)
Race						
Asian			1	(5.3)	1	(5.3)
American Indian or Alaskan Native						
Black or African American			4	(21.1)	4	(21.1)
Native Hawaiian or Other Pacific Islander	1	(5.6)				
White/Caucasian	13	(72.2)	9	(47.4)	8	(42.1)
Other	3	(16.7)	6	(31.6)	5	(26.3)
Ethnicity						
Hispanic	10	(55.6)	8	(42.1)	9	(47.4)
Non-Hispanic	8	(44.4)	11	(57.9)	10	(52.6)
Therapist Ethnic Match			11	(61.1)		
Therapist a Trainee						
Yes	6	(33.3)				
No	12	(66.7)				
Therapist Years Experience (Mean/SD)	7.9	(9.4)				
Therapist Discipline						
Marriage Family	8	(44.4)				
Therapy/Counseling Psychology	4	(22.2)				
Social Work	6	(33.3)				
Highest Level of Education						
Less than high school			2	(10.5)		
High school/GED			8	(42.1)		
Associate's degree						
Associate's Degree			4	(21.1)		
Bachelor's degree			4	(21.1)		
Other			1	(5.3)		
Child Baseline Disruptive Behavior Problem Score (ECBI; Mean/SD)					141.10	(38.68)
Child Primary Diagnosis						
ADHD					9	(47.4)
Disruptive behavior					2	(10.5)
Mood					1	(5.3)

Characteristic	Therapist (n=18) n/%	Parent (n=19) n/%	Children (n=19) n/%
Anxiety			3 (15.8)
Other			3 (15.8)

Note. One therapist and one child’s race questions were unanswered. One parent is a mixed race. One child primary diagnosis question was unanswered. ECBI = Eyberg Child Behavior Inventory; clinically significant behavior problems indicated by a score of 128 or higher (Eyberg et al., 1978).

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Table 2.

Bivariate Correlations Between Study Variables

Measure	1.	2.	3.	4.	5.	6.	7.	Mean	SD	Possible Range	Observed Range
1. PHQ	--							15.85	13.35	.00 – 45.00	.00 – 43.00
2. PMI	.42 ⁺	--						116.10	7.44	25.00 – 125.00	100.00 – 125.00
3. Attendance	-.35	.05	--					.86	.12	.00 – 1.00	.67 – 1.00
4. Engagement	-.50 [*]	-.01	.72 [*]	--				41.5	5.54	10.00 – 50.00	32.00 – 49.00
5. PPEM	.11	.28	.09	-.32	--			2.97	.50	1.00 – 5.00	2.13 – 3.78
6. Condition	-.11	-.19	-.42	-.23	-.16	--		.45	.51	.00–1.00	.00–1.00
7. Ethnicity	-.17	-.20	-.15	.41	-.60 [*]	.08	--	.40	.50	.00–1.00	.00–1.00

Note. PHQ = Patient Health Questionnaire internalizing symptom subscales composite; PMI = Parent Motivation Inventory; Attendance = ratio of sessions attended (late and on time) to sessions attended and scheduled (late, on time, no shows, and cancellations); Engagement = Engagement Measure; PPEM = Parent Participation Engagement Measure Coding System. For Condition, toolkit plus standard care is the reference group and standard care alone is reflected by the higher value. For Ethnicity, Non-Hispanic/Non-Latinx is the reference group and Hispanic/Latinx is reflected by the higher value.

⁺ p<.10;

^{*} p<.05.

Table 3.

Separate Partial Correlations Between Internalizing Symptoms and Motivation at Baseline and Later Treatment Engagement

Variable	Attendance	Engagement Measure	PPEM
Condition	-.51 *	-.47	.03
Ethnicity	-.16	.49 ⁺	-.60 *
Internalizing Symptoms	-.51 *	-.57 ⁺	-.06
Motivation	.10	.15	.26

Note. Attendance = ratio of sessions attended (late and on time) to sessions attended and scheduled (late, on time, no shows, and cancellations); PPEM = Parent Participation Engagement Measure Coding System. For Condition, toolkit plus standard care is the reference group and standard care alone is reflected by the higher value. For Ethnicity, Non-Hispanic/Non-Latinx is the reference group and Hispanic/Latinx is reflected by the higher value.

* p<.05;

⁺ p<.10.

Table 4a.

Hierarchical Linear Regression Analyses Examining the Differential Impact of Study Predictors on Engagement Outcomes: Motivation Over and Above Internalizing Symptoms

Predictor	Attendance			Engagement			PPEM		
	β	R^2	R^2	β	R^2	R^2	β	R^2	R^2
Step 1		.19	--		.29	--		.37	--
Condition	-.41 ⁺			-.36			-.04		
Ethnicity	-.09			.51			-.60		
Step 2		.39	.21 [*]		.47	.17 ⁺		.39	<.01
Condition	-.49			-.39			-.04		
Ethnicity	-.14			.38			-.59		
PHQ	-.46 [*]			-.43			.03		
Step 3		.40	.01		.52	.05		.41	.04
Condition	-.48 [*]			-.38			.03		
Ethnicity	-.13			.44			-.59		
PHQ	-.49 [*]			-.49			-.05		
PMI	.09			.24			.24		

Note. PHQ = Patient Health Questionnaire internalizing symptom subscales composite; PMI = Parent Motivation Inventory; Attendance = ratio of sessions attended (late and on time) to sessions attended and scheduled (late, on time, no shows, and cancellations); Engagement = Engagement Measure; PPEM = Parent Participation Engagement Measure Coding System. For Condition, toolkit plus standard care is the reference group and standard care alone is reflected by the higher value. For Ethnicity, Non-Hispanic/Non-Latinx is the reference group and Hispanic/Latinx is reflected by the higher value.

* p<.05;

⁺ p<.10.

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Table 4b.

Hierarchical Linear Regression Analyses Examining the Differential Impact of Study Predictors on Engagement Outcomes: Internalizing Symptoms Over and Above Motivation

Predictor	Attendance			Engagement			PPEM		
	β	R^2	R^2	β	R^2	R^2	β	R^2	R^2
Step 1		.19	--		.29	--		.37	--
Condition	-.41 ⁺			-.36			-.04		
Ethnicity	-.09			.51			-.60		
Step 2		.19	<.01		.31	.02		.41	.04
Condition	-.43 ⁺			-.35			.03		
Ethnicity	-.10			.55 ⁺			-.58		
PMI	-.08			.13			.22		
Step 3		.40	.21 [*]		.52	.21 ⁺		.41	<.01
Condition	-.48 [*]			-.38			.03		
Ethnicity	-.13			.44			-.59		
PMI	.09			.24			.24		
PHQ	-.49 [*]			-.49			-.05		

Note. PHQ = Patient Health Questionnaire internalizing symptom subscales composite; PMI = Parent Motivation Inventory; Attendance = ratio of sessions attended (late and on time) to sessions attended and scheduled (late, on time, no shows, and cancellations); Engagement = Engagement Measure; PPEM = Parent Participation Engagement Measure Coding System. For Condition, toolkit plus standard care is the reference group and standard care alone is reflected by the higher value. For Ethnicity, Non-Hispanic/Non-Latinx is the reference group and Hispanic/Latinx is reflected by the higher value.

* p<.05;

⁺ p<.10.