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Permalink

<https://escholarship.org/uc/item/8qf0h2r9>

Journal

Administration and Policy in Mental Health and Mental Health Services Research, 43(5)

ISSN

0894-587X

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Publication Date

2016-09-01

DOI

10.1007/s10488-015-0698-x

Peer reviewed



HHS Public Access

Author manuscript

Adm Policy Ment Health. Author manuscript; available in PMC 2017 September 01.

Published in final edited form as:

Adm Policy Ment Health. 2016 September ; 43(5): 813–823. doi:10.1007/s10488-015-0698-x.

The Parent Participation Engagement Measure (PPEM): Reliability and Validity in Child and Adolescent Community Mental Health Services

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Abstract

Parent participation in community-based child mental health services is an important yet understudied process associated with treatment effectiveness. This paper describes the development and psychometrics of the Parent Participation Engagement Measure (PPEM) in a sample of 1374 parents and 563 youth receiving publicly-funded mental health services. Analyses indicated excellent internal consistency, and model fit indices/factor loadings supported a one-factor model. Convergent and discriminant validity were supported, although some coefficients were modest in magnitude. Psychometric results were consistent for Caucasian versus Hispanic, parent versus youth, and English versus Spanish-language respondents. The clinical and research utility of this measure are discussed.

Keywords

parent; caregiver; participation; measurement; psychometrics; community-based services

Introduction

Client engagement in mental health treatment has long been considered a critical component of effective and efficient service delivery, and poor engagement is associated with poorer clinical outcomes (e.g., Baydar, Reid, & Webster-Stratton, 2003; Braswell, Kendall, Braith, Carey, & Vye, 1985; Gorin, 1993; McMurrin, Husband, & Overton, 2010; Meyer et al., 2002; Nye, Zucker, & Fitzgerald, 1999). Treatment engagement has been conceptualized as

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These results were presented at the 2015 Society of Pediatric Psychology Annual Conference, San Diego CA.

No other potential conflicts of interest are noted.

a process consisting of both attitudinal and behavioral components (e.g., Haine-Schlagel & Walsh, 2015; Staudt, 2007). The attitudinal component consists of the client's perceptions of the benefits of treatment and whether such benefits outweigh the costs. The behavioral component refers to help seeking, attendance, and active and meaningful participation in each clinical contact. Within the context of child and family mental health services, efforts have focused on understanding and promoting *parent* engagement given the important role parents play in obtaining and facilitating attendance at services (parent refers here to any primary caregiver) (Becker et al., 2015; Gopalan, 2010; Ingoldsby, 2010; Kim, Munson, & McKay, 2012; Lindsey, 2014).

Parents also play a key role in their children's mental health services through their meaningful participation in the service, referred to here as participation engagement. Parent participation engagement (PPE) includes parent behaviors during interactions with the child and the child's therapist, such as initial identification of treatment goals and shared determination of whether treatment goals were achieved, sharing opinions and one's point of view, asking questions, and participating in therapeutic activities such as games and role plays (Garland, Lewczyk-Boxmeyer, Gabayan, & Hawley, 2004; Karver, Handelsman, Fields, & Bickman, 2005). PPE also includes follow-through with homework, such as changes in parenting behaviors (e.g., increasing praise), serving as a co-therapist to continue the delivery of intervention strategies at home (e.g., facilitating turn taking with games at home), and/or supporting and monitoring the child's behavior change efforts (e.g., providing reminders to use coping strategies) (Hoagwood, 2005; Karver et al., 2005). PPE is distinct from therapeutic (or working) alliance, which represents the relationship between parent and therapist (Shirk, 1992; Tetley, Jinks, Huband, & Howells, 2011). Rather, PPE reflects the parent's active, independent, and responsive contributions to treatment.

PPE in child and family mental health services is important for several reasons. First, policy makers, researchers, and therapists agree that PPE is critical for the effectiveness of child and family treatment (Hoagwood, 2005; Quinn, 1995; Tolan, 2005). Second, meta-analyses and reviews have demonstrated that child outcomes are improved when parents are involved in treatment (Dowell, 2010; Haine-Schlagel & Walsh, 2015; Karver et al., 2006). Third, many evidence-based treatments for children focus directly on parents as an intervention target (e.g., David-Ferdon & Kaslow, 2008; Evans, 2014; Eyberg, 2008; Keel & Haedt, 2008; Silverman, 2008). Without attending to the parent, it is less likely that therapeutic changes achieved in sessions can be generalized to the home (Karver et al., 2006). Fourth, given that clients can contribute to successful fidelity to a treatment protocol (Allen, Linnan, & Emmons, 2012; Perepletchikova & Kazdin, 2005; Schoenwald, 2003), PPE may impact a clinician's ability to deliver child and family evidence-based practices as intended.

Unfortunately, data from community-based services indicate that PPE is lacking. A recent review of the PPE literature across both community-based services and structured treatments in child and family mental health services found only moderate rates of PPE (Haine-Schlagel & Walsh, 2015). Parents whose children are receiving community-based care report many challenges to participating actively in treatment (Baker-Ericzén, Jenkins, & Haine-Schlagel, 2013), including feeling blamed, judged, and not listened to by clinicians as well as unsupported by the service system (Baker-Ericzén et al., 2013). Observations of

community-based mental health treatment sessions for youth ages 4–13 indicate that therapeutic strategies are being delivered to parents less than half the time within sessions (Haine-Schlagel, Brookman-Frazee, Fettes, Baker-Ericzén, & Garland, 2012) and efforts to assign homework for parents are greatly lacking (Garland et al., 2010).

Several factors have been found to be associated with PPE. For example, participation in treatment has been significantly associated with satisfaction with services, perceived positive outcomes, number of sessions attended, and length of time in treatment (Fawley-King, Haine-Schlagel, Trask, Zhang, & Garland, 2012; Haine-Schlagel & Walsh, 2015). Research also suggests that child age and gender and family race/ethnicity and primary language may be associated with parent participation (Fawley-King et al., 2012; Gopalan et al., 2010; Macdonald et al., 2007). Very limited research has been conducted on therapist factors associated with PPE (Haine-Schlagel & Walsh, 2015). One study conducted by Patterson and Forgatch (1985) did find a significant association between therapists' engagement behaviors and PPE.

Several limitations exist in the limited literature on PPE, in part because of documented deficiencies in how PPE has been measured (Haine-Schlagel & Walsh, 2015). First, very few measures have been designed to be used in community-based routine care as opposed to the evaluation of structured treatment protocols. Second, most measures tend to focus on either a broad conceptualization of PPE or on a limited behavior such as homework completion, leaving the area of parent participation behaviors within sessions largely unexamined. Third, most studies examining PPE have not included culturally diverse families and families from low socioeconomic backgrounds. Fourth, most measures do not have published psychometric information, and very few have versions available for multiple reporters (in particular parents and youth) or in multiple languages. Psychometrically strong, brief PPE measurement tools for diverse families are necessary to facilitate efforts to improve PPE in community-based mental health services, where it is needed most (e.g. Haine-Schlagel & Walsh, 2015; Hock et al., 2015). Improved measurement of PPE can provide tools and information for both researchers and clinicians to engage in efforts to enhance PPE by, for example, facilitating the ability to screen families for those who may be most at risk for low PPE or to assess the effectiveness of efforts to improve PPE.

The current paper addresses these existing gaps by describing the development and psychometric properties of a new brief PPE measure, the Parent Participation Engagement Measure (PPEM). The PPEM focuses specifically on parent participation behaviors with the therapist as reported by both youth and their parents and is designed for use with culturally diverse families served in community mental health settings. The primary hypothesis is that the PPEM will have strong psychometric properties across Non-Hispanic Caucasian and Hispanic families and both parent and youth reports of parent participation in sessions. Additional research questions include whether model fit and reliability estimates are consistent across English and Spanish versions of the measure, whether the measure demonstrates convergent and discriminant validity based on the extant literature, and the degree of cross-reporter convergence.

Method

Measure Development Process

The PPEM was developed through several activities led by the first author. First, a careful review of the parent participation literature was undertaken (PUBLISHED REFERENCE BLINDED FOR REVIEW). Based on this review, a pool of 11 items was generated to represent within-session participation. These items were intended to evaluate a specific clinical interaction between the parent and the child's therapist. Respondents are asked to rate the frequency of each item, which is consistent with previous parent report measures of parent participation (Fawley-King et al., 2012). The initial item pool was then subjected to a modified Delphi review (e.g., Olin et al., 2014) that included 10 nationally recognized child mental health treatment engagement researchers. These 10 experts provided ratings and qualitative feedback on each item, including face validity and content validity. Both quantitative and qualitative responses were utilized to refine the item pool into a set of six items. The authors then sought consultation from the leadership representatives of a large public child and adolescent mental health service system in Southern California. The leadership representatives provided feedback on face validity, content validity, item wording. The six items were administered to adolescents ages 13 and over and parents whose children received services through the county's child and adolescent mental health service system as part of a larger client feedback survey. No intervention designed to impact parent participation was implemented as part of this study.

Prior to conducting the analyses presented in this paper, the research team identified one item as lacking specificity (i.e., "How much did you/your parent share information with your counselor?"). The term "sharing information" was considered too vague and not adequate to capture the underlying goal of the item, which was to assess sharing information relevant to the services being provided, rather than general conversation. This item was removed, resulting in five items to be included in the subsequent quantitative analyses. The items are: "How much did you ask your child's counselor questions?"; "How much did you share your opinion or point of view with your child's counselor?"; "How much did you participate in counseling activities like games or practicing something new?"; "How much did you give input to your child's counselor about what you and your child will do at home before the next appointment?"; and "How much did you agree with the plan for what you and your child will do at home before the next appointment?" Please contact the first author for access to the measure.

Sample Selection

This study is a product of an ongoing partnership between researchers and county administrators to evaluate a large Southern California county's child and adolescent behavioral health service system and identify targets for quality improvement. The sample was drawn from the population of youth and their parents who received public mental health services in San Diego County in August 2013. Parents whose child had a billable service, and youth themselves over age 12, were asked to complete surveys at their service sites. The surveys were available in English and Spanish languages. A total of 2,469 parent and 1,243 youth surveys were distributed, and 1881 (76%) parent and 989 (80%) youth surveys were

returned at least partially completed. Of the 588 parent surveys that were not completed, administrative staff cited the following reasons: Approximately 30% refused to complete the survey, 30% of caregivers were unavailable, 3.7% were impaired or had language difficulties with the form, and approximately 36% cited “other” reasons. Of the 254 youth surveys that were not completed, 43% refused, 26% were unavailable, 3.2% were impaired or had language difficulties with the form, and 28% cited “other” reasons. Discussions with administrative staff indicate that anecdotally, some of the “other” reasons that parents or youth might not fill out the survey include: staff forgot to administer the form, staff sent the form home with the child and the parent did not return it within the one-week survey window, the child was over 18 and didn’t want their parent to fill out the YSS. The surveys are typically administered by administrative front desk staff who also complete the reason for non-completion section of the survey. Families may have been administered the survey more than once if attending services at multiple sites during the survey period (however this situation was rare given the one-week time frame). The remainder declined to complete the survey or did not attend their session during time period the surveys were administered. From the completed surveys, a subsample was selected based on the following criteria: (1) youth received outpatient, day treatment, case management, or in-home behavioral support services; (2) parents who completed the survey had a child ages 0–17 who received services; (3) youths who completed the survey were ages 13–17; (4) youths had received more than one mental health visit at the time of the survey administration; (5) when the parent or youth had completed more than one survey (due to receiving services at multiple sites during the survey administration period), only one survey per reporter was randomly selected; and (6) when both parent and youth reports were available from multiple sites, surveys were selected for the same site when available. Based on these criteria 556 surveys were excluded resulting in a final sample of 1374 parents and 563 youth. To examine the representativeness of the subsample, demographic characteristics were compared with the full population receiving services in the county between July 1 and September 30, 2013. These analyses are reported in the “Results” section. Sample descriptive statistics are provided in Table 1.

Procedures

Surveys were distributed and collected between August 26 and August 30, 2013. All parents of children who received billable services from San Diego County-funded mental health service providers (excluding crisis services and inpatient hospitalization services) and youth themselves over age 12 were asked to complete surveys by their service providers. Each child had an individual mental health service identification number that was entered on the surveys. To maintain anonymity from the service providers, surveys were returned in sealed envelopes that were then sent to an independent research team (including authors XXX, XXX, XXX, and XXX – BLINDED FOR REVIEW).

Use of these data for secondary data analysis was approved by the University of California, San Diego Institutional Review Board and the San Diego County Behavioral Health Services Research Committee.

Measures

Parent Participation Engagement Measure (PPEM)—The five-item measure (see Appendix) assesses the frequency with which the parent engaged in one or more of five participation behaviors during the most recent appointment the parent attended. The most recent session was assessed to allow for specificity of responses. Response options were on a five-point scale ranging from “not at all” to “very much.” Items assessed several specific parent participation behaviors that can occur within a clinical encounter, including asking questions, making suggestions or sharing one’s opinion or point of view, participating in therapeutic activities, contributing to homework planning, and agreeing with the homework plan. Both a parent self-report and a youth report about the parent’s participation are available. Research staff translated the items into Spanish through a back translation process.

Youth Services Survey for Families (YSSF) (Brunk, 2001)—Child background characteristics (child age, gender, race/ethnicity), service characteristics (level of care, length of time in treatment) and parent satisfaction with services were measured through the YSSF. This survey was designed by the Children’s Indicator Workgroup for the 16 State Indicator Project within the Mental Health Statistics Improvement Program (Brunk, 2001), and has very good internal consistency reliability (Riley, Stromberg, & Clark, 2005) and strong convergent validity (Shafer & Temple, 2013). The satisfaction portion consists of 26 questions and respondents are asked to answer them using a 5-point Likert scale (from 1 = Strongly Disagree to 5 = Strongly Agree). Factor analyses conducted by different research groups have resulted in the identification of similar, but slightly different factor structures (Riley et al., 2005; Shafer & Temple, 2013). For the purposes of this study we utilized the following four factors, general satisfaction, positive outcomes, cultural sensitivity and social connectedness, which were determined through exploratory factor analysis using a principal axis factor extraction and promax correlated factors rotation (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

County administrative data—Whether the family had received any family therapy sessions during the current fiscal year (between July 1, 2013 and August 26, 2013, which was the first day of survey administration) was calculated from county administrative records. Level of care (e.g., outpatient, day treatment) and child’s primary diagnosis were also extracted from county administrative records.

Analysis Plan

Data were analyzed using Mplus (v.7) (Muthén & Muthén, 1998–2014) and SPSS (v. 21) statistical software packages. The first set of analyses included measures of model fit, scale reliability, and program-level variability. Because significant variability in PPEM scores was attributable to the program level (Intraclass Correlation Coefficients [ICCs] ranged from .06 to .23), subsequent analyses were conducted in a multilevel framework using Mplus to account for the nested nature of the data (i.e., parent and/or youth nested in programs). The second set of analyses examined convergent and discriminant validity of the measure.

To address the primary hypothesis that both a one-factor structure and reliability will be strong across Caucasian and Hispanic samples, as well as across parent and youth reports,

those analyses are presented separately for each subsample. To address the additional research question about model fit and reliability across English and Spanish administrations, those analyses are presented separately for each language group. See Table 2 for sample sizes for each subgroup. The analyses addressing the additional research questions regarding convergent and discriminant validity are presented separately by parent and youth reports.

Results

Representativeness

Overall, the demographic characteristics of this sample were very similar to the demographic characteristics of the entire population of children who received outpatient mental health services in San Diego County between July 2013 and September 2013. However, this sample displayed a few statistically significant differences, including slightly more female children (44% v. 40%), slightly more school-age children (37% v. 32%), and slightly more internalizing primary diagnoses (35% v. 28%).

Item-Level Descriptive Statistics

Table 3 provides the mean and standard deviation for each item as well as the total score. A higher score reflects greater participation in the session.

Model Fit and Reliability Analyses

See Tables 4 and 5 for results. Confirmatory factor analysis was used to test the model fit of a one-factor model. Overall model fit was determined using the χ^2 likelihood ratio and the following recommendations by Bentler (2007): (a) the Comparative Fit Index (CFI) (Bentler, 1990), with values greater than .95 indicating reasonable model fit and values greater than .90 indicating a plausible model; and (b) the Standardized Root Mean Residual (SRMR) (Hu & Bentler, 1999), which is an absolute index of overall model fit with values less than .08 indicating acceptable model fit and values less than .05 indicating good model fit. Both factor loadings and model fit indices supported a one-factor model. Cronbach's alpha estimates were calculated and ranged from .86–.93 for each subsample indicating excellent internal consistency reliability. ICC's at the program level were non-zero values, indicating that some degree of variability in the PPEM scores was attributable to the program itself. All estimates were consistent when parent and youth respondents, Non-Hispanic Caucasian and Hispanic respondents, and English- and Spanish-language respondents were analyzed separately.

Validity Analyses

Time since last session—The survey was administered at a specific time point and the length of time since the last session the parent attended could vary in the sample. Thus, the association between number of weeks since the last session and PPEM scores was examined to assess whether variability in PPEM scores was due to length of time since the last session. The correlations were not significant for either parent ($r = -.03$) or youth report ($r = .05$).

YSSF subscales—As Table 6 indicates, significant and moderate correlations were found between parent report of the PPEM and three constructs that have been previously associated

with participation: satisfaction with services, cultural sensitivity, and perceived positive outcomes. Associations between PPEM scores and the social connectedness subscale of the YSSF were also examined and found to be significant in the positive direction (see Table 6), although no previous literature was available to identify an a priori hypothesis for that construct. Correlations for the youth report were somewhat lower in magnitude but also significant.

Service type—Associations between PPEM scores and level of care were examined to assess both convergent and discriminant validity. It was expected that PPEM scores would be higher in the outpatient, case management, and in-home behavioral support services given the built-in opportunities for parent participation in these services, whereas PPEM scores would be lower for the day treatment services where parent involvement is not typically a regular part of the service. Results for both parent and youth reports confirmed these hypotheses (see Table 6).

Attendance—Based on existing research, PPEM scores were hypothesized to be positively associated with whether family therapy services had been received. A significant positive association was found for both reporters (see Table 6). With the exception of one comparison, PPEM scores were not significantly associated with length of time in treatment.

Child characteristics—As Table 6 indicates, the PPEM was not associated with child gender or ethnicity. As expected, parent report of participation was associated with child age in the inverse direction (i.e., younger children associated with greater participation). A post-hoc examination of diagnostic differences on PPEM scores for both parent and youth report measures were conducted and were not significant.

Cross-reporter convergence—The association between parent report and youth report on the matched pairs of available PPEM scores ($n = 391$) was significant, $r = .29$, a medium effect size.

Discussion

The results demonstrate that the PPEM is a psychometrically strong, brief, pragmatic measure of within-session parent participation behaviors in community-based child and family mental health services. Model fit and reliability analyses supported a one-factor model that held across parent and youth respondents, Non-Hispanic Caucasian and Hispanic respondents, and English- and Spanish-language respondents. Results supported the convergent and discriminant validity of the PPEM with satisfaction with services, cultural sensitivity, and perceived positive outcomes as well as service type and some child characteristics. The lack of a strong association between time in treatment and PPEM scores was not consistent with a previous study's findings (Fawley-King et al., 2012) and may be due to differences in measurement. Fawley-King et al.'s study examined different kinds of participation over the course of treatment, whereas the PPEM is assessing intensity of participation in a session. The cross-reporter convergence was similar to that found in a study that examined the association between parent and youth reports on parent involvement in education ($r = .40$; Pelegrina, Garcia-Linares, & Casanova, 2003), indicating consistency

in overlap between reporters as well as unique reporter perspectives on parent participation across studies.

Notable features of the PPEM are its cross-cultural validity and availability in Spanish, as well as its brief (five items) and pragmatic nature, which should facilitate use in intervention studies, clinical practice, and quality improvement efforts (Glasgow & Riley, 2013). Another strength is that this initial psychometric testing was conducted on a large sample of clients receiving community-based services, in contrast to the majority of previous research on PPE that was conducted with structured treatment protocols (Haine-Schlagel & Walsh, 2015). In addition, the inclusion of a youth report parent participation measure can greatly add to the field's knowledge regarding parent participation in treatment (Hock et al., 2015).

Almost no prior studies to date have examined variability in child and family mental health service engagement at the organizational level. One study examining parent attendance at child mental health services found a very small intraclass correlation ($ICC = .02$) (Israel, Thomsen, Langeveld, & Stormark, 2007) at the organizational level. The substantial intraclass correlations by program in the current sample suggest that a therapist organization's culture and climate, policies, and/or target population may play meaningful roles in the degree to which parents are participating actively in services. These findings suggest that future studies in the area of parent participation in community-based settings should take into account organization-level factors.

Clinical and Research Implications

The findings from this initial psychometric study of the PPEM provide evidence supporting the reliability and validity of the PPEM for community-based mental health services for children and families. The measure has many potential uses that can improve behavioral health. For example, the PPEM may be useful as a psychoeducational tool for clinicians, parents, and youth to provide clear examples of what active parent participation looks like. In addition, the PPEM can be used as a tool to generate parent and youth perspectives on PPE in diverse community-based settings for a number of purposes. For example, clinicians can use the PPEM to facilitate conversations with families about parent participation in services. Studies have found that when parents feel empowered to help their child, treatment benefits are greater (Resendez, Quist, & Matshazi, 2000; Taub, Tighe, & Burchard, 2001). Clinicians may use responses on the PPEM to talk about possible barriers to participation and/or to acknowledge the parent's participation efforts. Parent report on the PPEM may also be used to facilitate discussions about the parent's role in treatment; when parents do not feel understood or involved in their child's treatment, the families tend to drop out (Garcia & Weisz, 2002). Youth report on the PPEM may be useful in facilitating family conversations about youth's interest in parent involvement, which has been documented in previous qualitative research (Baker-Ericzen et al., 2013). PPEM scores may also be used to provide data to funders who require parent participation in services and/or service organizations to inform efforts to increase parent participation in their settings.

Limitations and Future Research

Some limitations exist regarding this initial study of the PPEM. First, while the measure's brevity is a strength in terms of feasibility, it is possible that additional within-session participation behaviors that are part of the underlying construct are not represented, such as homework follow-through or active interference. In addition, the PPEM only measures the behavioral component of engagement in services as opposed to the affective and attitudinal components (Hock et al., 2015). It is also possible that different cultural groups exhibit different participation behaviors not represented in the PPEM, such as statements indicating respect for the clinician (Carrillo, 2001). Second, the PPEM is limited to examining frequency of within-session participation behaviors, and does not measure other components of parent engagement in treatment that are important for outcomes, such as cognitive preparation or homework completion (Becker et al., 2015; Haine-Schlagel & Walsh, 2015; Staudt, 2007). Third, the validity testing within the study was limited to the variables collected as part of the existing YSSF and did not include tests of other potentially important validity indicators such as motivation to participate or observational measures of participation. The evaluation plan also did not allow for additional measures of PPE to be collected to further validate the PPEM, such as observational coding of parent participation behaviors within sessions. In addition, the evaluation design did not allow for therapist ratings of PPE to be collected to assess convergent validity. Fourth, the cross-sectional nature of the study precluded examining predictive validity; in addition, only participation at the most recent session was assessed, which may not be reflective of the parent's overall participation in services. The existing evaluation plan did not afford the opportunity to collect PPEM data at multiple time points across treatment to examine psychometric properties of the measure over time or to look substantively at PPE over the course of treatment. Fifth, it is important to note the potential sampling bias due to the number of survey refusals. It is possible that those who did not participate are representative of parents who may not be engaged or may be experiencing more barriers to participation.

An important area for future research is the examination of whether the PPEM is predictive of other important service indicators such as retention, motivation to participate in services, satisfaction with services, and time to treatment completion. If such associations were found, next steps would focus on developing interventions to improve PPEM scores to in turn improve these outcomes. Similarly, future research should focus on developing normative data and cut-off scores that indicate possible problems with participation or predict dropout from treatment (Hock et al., 2015), as well as possible facilitators and barriers to parent participation in sessions, to inform and intervention development to prevent/address participation challenges. The PPEM may also be used to assess the effectiveness of interventions designed to improve PPE, from organizational interventions to clinician training to client empowerment efforts. An additional area of future research include the continued testing of the psychometric properties of the PPEM, such as cultural equivalence in additional racial/ethnic minority groups. Another important area of future research using the PPEM is further examination of changes in PPE over the course of treatment to inform efforts to keep parents participating in services over time, in particular for parents mandated to participate in treatment. The limited research to date on PPE over the course of treatment has found some variability in PPE by phase of treatment (e.g., poorest PPE at middle phase

of treatment, Chamberlain, Patterson, Reid, Kavanagh, & Forgatch, 1984; better PPE earlier than later in treatment, Clarke et al., 2013; no change in PPE over course of treatment; Chacko et al., 2012) but additional examination is warranted.

Acknowledgments

Preparation of this article was supported in part by National Institute of Mental Health of the National Institutes of Health under award number K23MH080149 (PI: Haine-Schlagel). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The authors would like to acknowledge Ann Garland, Ph.D., Jonathan Martinez, Ph.D., & Natalia Walsh, M.S. for their helpful comments on an earlier version of this manuscript. The authors are grateful to the County of San Diego Health and Human Services Agency for providing deidentified data from their management information systems. The authors wish to acknowledge the family participants, the therapists and organizations that facilitated data collection, and the System of Care Evaluation team of evaluators. This study received financial support from the County of San Diego Health and Human Services Agency.

References

- Allen, J.D.; Linnan, L.A.; Emmons, K.M. Fidelity and its relationship to implementation effectiveness, adaptation, and dissemination. In: Brownson, R.C.; Colditz, G.A.; Proctor, E.K., editors. *Dissemination and Implementation Research in Health: Translating Science to Practice*. Oxford University Press; 2012. p. 281-304.
- Baker-Ericzén MJ, Jenkins MM, Haine-Schlagel R. Therapist, parent, and youth perspectives of treatment barriers to family-focused community outpatient mental health services. *Journal of Child and Family Studies*. 2013; 22(6):854–868. [PubMed: 24019737]
- Baydar N, Reid MJ, Webster-Stratton C. The role of mental health factors and program engagement in the effectiveness of a preventive parenting program for head start mothers. *Child Development*. 2003; 74(5):1433–1453. [PubMed: 14552407]
- Becker KD, Lee BR, Daleiden EL, Lindsey M, Brandt NE, Chorpita BF. The common elements of engagement in children's mental health services: Which elements for which outcomes? *Journal of Clinical Child & Adolescent Psychology*. 2015; 44(1):30–43. [PubMed: 23879436]
- Bentler PM. Comparative fit indexes in structural models. *Psychological Bulletin*. 1990; 107(2):238–246. [PubMed: 2320703]
- Bentler PM. On tests and indices for evaluating structural models. *Personality and Individual Differences*. 2007; 42(5):825–829.
- Braswell L, Kendall PC, Braith J, Carey MP, Vye CS. "Involvement" in cognitive-behavioral therapy with children: Process and its relationship to outcome. *Cognitive Therapy and Research*. 1985; 9(6): 611–630.
- Brunk, M. Guidelines for the YSS & the YSS-F. Retrieved from Mental Health Statistics Improvement Program Website. 2001. website: <http://www.mhsip.org>
- Carrillo, E. Assessment and treatment of the Latino patient. In: Lopez, A.G.; Carrillo, E., editors. *The Latino psychiatric patient: Assessment and treatment*. Washington, DC: American Psychiatric Publishing, Inc; 2001. p. 37-56.
- Chacko A, Wymbs BT, Chimiklis A, Wymbs FA, Pelham WE. Evaluating a comprehensive strategy to improve engagement to group-based behavioral parent training for high-risk families of children with ADHD. *Journal of Abnormal Child Psychology*. 2012; 40(8):1351–1362. [PubMed: 22802072]
- Chamberlain P, Patterson G, Reid J, Kavanagh K, Forgatch M. Observation of client resistance. *Behavior Therapy*. 1984; 15(2):144–155.
- Clarke AT, Marshall SA, Mautone JA, Soffer SL, Jones HA, Costigan TE, Power TJ. Parent attendance and homework adherence predict response to a family-school intervention for children with ADHD. *Journal of Clinical Child & Adolescent Psychology*. 2015; 44(1):58–67. [PubMed: 23688140]

- David-Ferdon C, Kaslow NJ. Evidence-based psychosocial treatments for child and adolescent depression. *Journal of Clinical Child & Adolescent Psychology*. 2008; 37(1):62–104. [PubMed: 18444054]
- Dowell KA, Ogles BM. The effects of parent participation on child psychotherapy outcome: A meta-analytic review. *Journal of Clinical Child & Adolescent Psychology*. 2010; 39(2):151–162. [PubMed: 20390807]
- Evans SW, Owens J, Bunford N. Evidence-based psychosocial treatments for children and adolescents with attention-deficit/hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology*. 2014; 43(4):527–551. [PubMed: 24245813]
- Eyberg SM, Nelson MM, Boggs SR. Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child & Adolescent Psychology*. 2008; 37(1):215–237. [PubMed: 18444059]
- Fabrigar LR, Wegener DT, MacCallum RC, Strahan EJ. Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*. 1999; 4(3):272.
- Fawley-King K, Haine-Schlagel R, Trask EV, Zhang J, Garland AF. Caregiver participation in community-based mental health services for children receiving outpatient care. *Journal of Behavioral Health Services & Research*. 2012; 40(2):180–190. [PubMed: 23250770]
- Garcia JA, Weisz JR. When youth mental health care stops: Therapeutic relationship problems and other reasons for ending youth outpatient treatment. *Journal of Consulting and Clinical Psychology*. 2002; 70(2):493–443.
- Garland AF, Brookman-Frazee L, Hurlburt M, Arnold E, Zoffness R, Haine-Schlagel R, Ganger W. Mental health care for children with disruptive behavior problems: A view inside therapists' offices. *Psychiatric Services*. 2010; 61(8):788–795. [PubMed: 20675837]
- Garland AF, Lewczyk-Boxmeyer CM, Gabayan EN, Hawley KM. Multiple stakeholder agreement on desired outcomes for adolescents' mental health services. *Psychiatric Services*. 2004; 55(6):671–676. [PubMed: 15175465]
- Glasgow RE, Riley WT. Pragmatic measures: What they are and why we need them. *American Journal of Preventive Medicine*. 2013; 45(2):237–243. [PubMed: 23867032]
- Gopalan G, Goldstein L, Klingenstein K, Sicher C, Blake C, McKay MM. Engaging families into child mental health treatment: Updates and special considerations. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*. 2010; 19(3):182–196. [PubMed: 20842273]
- Gorin SS. The prediction of child psychotherapy outcome: Factors specific to treatment. *Psychotherapy*. 1993; 30(1):152–158.
- Haine-Schlagel R, Brookman-Frazee L, Fettes DL, Baker-Ericzén M, Garland AF. Therapist focus on parent involvement in community-based youth psychotherapy. *Journal of Child and Family Studies*. 2012; 21(4):646–656. [PubMed: 22844188]
- Haine-Schlagel R, Walsh N. Parent participatory engagement in youth and family mental health treatment. *Clinical Child and Family Psychology Review*. 2015; 18(1):133–150. [PubMed: 25726421]
- Hoagwood KE. Family-based services in children's mental health: A research review and synthesis. *Journal of Child Psychology and Psychiatry*. 2005; 46(7):690–713. [PubMed: 15972066]
- Hock R, Priester MA, Lachini AL, Browne T, DeHart D, Clone S. A Review of family engagement measures for adolescent substance use services. *Journal of Child and Family Studies*. 2015; 24:1–11.
- Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*. 1999; 6(1):1–55.
- Ingoldsby EM. Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child & Family Studies*. 2010; 19(5):629–645. [PubMed: 20823946]
- Israel P, Thomsen PH, Langeveld JH, Stormark KM. Child factors associated with parent involvement in usual clinical care of children and adolescents: A national register study. *Nordic Journal of Psychiatry*. 2007; 61(3):173–181. [PubMed: 17523028]
- Karver MS, Handelsman JB, Fields S, Bickman L. Meta-analysis of therapeutic relationship variables in youth and family therapy: The evidence for different relationship variables in the child and

adolescent treatment outcome literature. *Clinical Psychology Review*. 2006; 26(1):50–65. [PubMed: 16271815]

Karver MS, Handelsman JB, Fields S, Bickman L. A theoretical model of common process factors in youth and family therapy. *Mental Health Services Research*. 2005; 7(1):35–51. [PubMed: 15832692]

Keel PK, Haedt A. Evidence-based psychosocial treatments for eating problems and eating disorders. *Journal of Clinical Child & Adolescent Psychology*. 2008; 37(1):39–61. [PubMed: 18444053]

Kim H, Munson MR, McKay MM. Engagement in mental health treatment among adolescents and young adults: A systematic review. *Child and Adolescent Social Work Journal*. 2012; 29(3):241–266.

Lindsey MA, Brandt NE, Becker KD, Lee BR, Barth RP, Daleiden EL, Chorpita BF. Identifying the common elements of treatment engagement interventions in children's mental health services: Which elements for which outcomes? *Clinical Child and Family Psychology Review*. 2014; 17(3): 283–298. (ahead of print). [PubMed: 24379129]

Macdonald E, Lee E, Geraghty K, McCann K, Mohay H, O'Brien T. Towards a developmental framework of consumer and carer participation in child and adolescent mental health services. *Australasian Psychiatry*. 2007; 15(6):504–508. [PubMed: 17852063]

McMurrin M, Husband N, Overton E, Institute. Non-completion of personality disorder treatments: A systematic review of correlates, consequences, and interventions. *Clinical Psychology Review*. 2010; 30(3):277–287. [PubMed: 20047783]

Meyer B, Pilkonis PA, Krupnick JL, Egan MK, Simmens SJ, Sotsky SM. Treatment expectancies, patient alliance, and outcome: Further analyses from the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *Journal of Consulting and Clinical Psychology*. 2002; 70(4):1051–1055. [PubMed: 12182269]

Muthén, LK.; Muthén, BO. *Mplus User's Guide*. Los Angeles, CA: Muthén & Muthén; 1998–2014.

Nye CL, Zucker RA, Fitzgerald HE. Early family-based intervention in the path to alcohol problems: Rationale and relationship between treatment process characteristics and child and parenting outcomes. *Journal of Studies on Alcohol, Supplement No.* 1999; 13:10–21.

Olin S, Kutash K, Pollock M, Burns BJ, Kuppinger A, Craig N, Hoagwood K. Developing quality indicators for family support services in community team-based mental health care. *Administration and Policy in Mental Health and Health Services Research*. 2014; 41(1):7–20.

Patterson GR, Forgatch MS. Therapist behavior as a determinant for client noncompliance: A paradox for the behavior modifier. *Journal of Consulting and Clinical Psychology*. 1985; 53(6):846–851. [PubMed: 4086685]

Pelegrina S, Garcia-Linares MC, Casanova PF. Adolescents and their parents' perceptions about parenting characteristics. Who can better predict the adolescent's academic competence? *Journal of Adolescence*. 2003; 26(6):651–665. [PubMed: 14643738]

Perepletchikova F, Kazdin AE. Treatment integrity and therapeutic change: Issues and research recommendations. *Clinical Psychology: Science and Practice*. 2005; 12(4):365–383.

Quinn KP, Epstein MH, Cumblad CL. Developing comprehensive, individualized community-based services for children and youth with emotional and behavioral disorders: Direct service providers' perspectives. *Journal of Child and Family Studies*. 1995; 4(1):19–42.

Resendez MG, Quist RM, Matshazi DGM. A longitudinal analysis of family empowerment and client outcomes. *Journal of Child & Family Studies*. 2000; 9(4):449–460.

Riley SE, Stromberg AJ, Clark JJ. Assessing parental satisfaction with children's mental health services with the youth services survey for families. *Journal of Child and Family Studies*. 2005; 14:87–89.

Schoenwald SK, Sheidow AJ, Letourneau EJ, Liao JG. Transportability of multisystemic therapy: Evidence for multilevel influences. *Mental Health Services Research*. 2003; 5(4):223–239. [PubMed: 14672501]

Shafer AB, Temple JM. Factor structure of the Mental Health Statistics Improvement Program (MHSIP) family and youth satisfaction surveys. *Journal of Behavioral Health Services & Research*. 2013; 40(3):306–316. [PubMed: 23636620]

- Shirk SR, Saiz CC. Clinical, empirical, and developmental perspectives on the therapeutic relationship in child psychotherapy. *Development and Psychopathology*. 1992; 4(4):713–728.
- Silverman WK, Pina AA, Viswesvaran C. Evidence-based psychosocial treatments for phobic and anxiety disorders in children and adolescents. *Journal of Clinical Child & Adolescent Psychology*. 2008; 37(1):105–130. [PubMed: 18444055]
- Staudt M. Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies*. 2007; 16(2):183–196.
- Taub J, Tighe TA, Burchard J. The effects of parent empowerment on adjustment for children receiving comprehensive mental health services. *Children's Services: Social Policy, Research, and Practice*. 2001; 4(3):103–122.
- Tetley A, Jinks M, Huband N, Howells K. A systematic review of measures of therapeutic engagement in psychosocial and psychological treatment. *Journal of Clinical Psychology*. 2011; 67(9):927–941. [PubMed: 21633956]
- Tolan PH, Dodge KA. Children's mental health as a primary care and concern: A system for comprehensive support and service. *American Psychologist*. 2005; 60(6):601–614. [PubMed: 16173893]

Table 1

Sample Descriptive Statistics.

Descriptive Measure	Parent Surveys	Youth Surveys
Child Age ^a	M=10.97 (SD=4.01)	M=15.12 (SD=1.36)
Child Gender ^b	57.0% male	43.0% male
Child Race/Ethnicity ^c		
Hispanic	67.5%	62.2%
American Indian/Alaska Native	0.5%	0.6%
Asian	0.8%	1.3%
Pacific Islander	0.1%	0.2%
African American	6.1%	6.8%
Caucasian	18.1%	18.0%
Other	1.7%	2.6%
Multiracial	5.2%	8.3%
Child Primary Diagnosis ^d		
ADHD	15.1%	6.2%
Oppositional/Conduct Disorders	18.1%	15.5%
Depressive Disorders	21.3%	41.2%
Bipolar Disorders	9.1%	15.3%
Anxiety Disorders	13.7%	11.5%
Adjustment Disorders	19.2%	7.3%
Schizophrenic Disorders	0.8%	0.9%
Other	2.6%	2.0%
Survey Language ^e		
English	65.3%	98.6%
Spanish	34.7%	1.4%
Service Type ^e		
Outpatient	83.9%	72.5%
Case Management	7.8%	13.0%
In-Home Support	3.1%	1.1%
Day Treatment	5.2%	13.5%
Length of Time in Treatment ^e		
Less than one month	12.1%	17.1%
1–2 months	24.6%	20.4%
3–5 months	30.1%	30.4%
6 months to 1 year	25.3%	20.4%
More than 1 year	7.9%	11.7%
Family Therapy Sessions ^e		

Descriptive Measure	Parent Surveys	Youth Surveys
None	52.0%	65.9%
1 or More	48.0%	34.1%

^a n=1374 for parent surveys; n=563 for youth surveys

^b n=1343 for parent surveys; n=544 for youth surveys

^c n=1338 for parent surveys; n=543 for youth surveys

^d n=1331 for parent surveys; n=548 for youth surveys

^e n=1237 for parent surveys; n=507 for youth surveys

Table 2

Subgroup Sample Sizes.

Parent-Overall	1374
Parent-Caucasian	522
Parent-Hispanic	903
Youth-Overall	563
Youth-Caucasian	195
Youth-Hispanic	338
English	1452
Spanish	485

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Table 3

Mean (Standard Deviation) For Each Item and Total Scale.

Report-Sample	Ask Questions	Share Opinion	Part of Activities	Give Input	Agree with Plan	Total Scale
Parent-Overall	3.90 (1.07)	4.21 (0.96)	3.68 (1.37)	3.93 (1.15)	4.25 (0.98)	3.98 (0.98)
Parent-Caucasian	3.84 (1.04)	4.21 (0.91)	3.64 (1.39)	3.89 (1.14)	4.27 (0.94)	3.96 (0.90)
Parent-Hispanic	3.96 (1.05)	4.22 (0.95)	3.71 (1.35)	3.95 (1.16)	4.23 (0.99)	4.01 (0.99)
Youth-Overall	3.51 (1.22)	3.96 (1.14)	3.14 (1.48)	3.41 (1.38)	3.73 (1.29)	3.57 (1.06)
Youth-Caucasian	3.76 (1.08)	4.19 (0.96)	3.43 (1.48)	3.61 (1.33)	3.98 (1.10)	3.75 (0.98)
Youth-Hispanic	3.61 (1.20)	3.94 (1.15)	3.08 (1.45)	3.37 (1.39)	3.74 (1.30)	3.55 (1.06)
English	3.74 (1.14)	4.11 (1.04)	3.47 (1.44)	3.72 (1.27)	4.07 (1.13)	3.81 (0.99)
Spanish	4.04 (1.01)	4.20 (0.95)	3.65 (1.36)	3.96 (1.14)	4.17 (1.00)	4.00 (0.93)

Note. Response scale for each item ranges from 1–5.

Table 4

Standardized Factor Loadings for One-Factor Model.

Report-Sample	Ask Questions	Share Opinion	Part of Activities	Give Input	Agree with Plan
Parent-Overall	0.74	0.77	0.70	0.88	0.80
Parent-Caucasian	0.70	0.74	0.70	0.88	0.79
Parent-Hispanic	0.74	0.73	0.72	0.88	0.81
Youth-Overall	0.67	0.68	0.71	0.89	0.80
Youth-Caucasian	0.66	0.57	0.71	0.95	0.79
Youth-Hispanic	0.69	0.69	0.73	0.86	0.80
English	0.71	0.73	0.70	0.88	0.80
Spanish	0.75	0.76	0.76	0.91	0.85

Table 5

Model Fit Indices, Cronbach's Alpha, and ICC's for One-Factor Model.

Report-Sample	X ² (df)	SRMR	CFI	α	ICC
Parent-Overall	174.24 (5)	.05	.89	.87	.06
Parent-Caucasian	60.32 (5)	.04	.92	.86	.06
Parent-Hispanic	118.57 (5)	.05	.87	.88	.06
Youth-Overall	76.43 (5)	.05	.92	.87	.09
Youth-Caucasian	9.67 (5)	.05	.95	.85	.23
Youth-Hispanic	40.82 (5)	.05	.92	.87	.05
English	167.65 (5)	.05	.93	.87	.11
Spanish	74.98 (5)	.05	.87	.90	.11

Note: SRMR: Standardized Root Mean-Square Residual; CFI: Comparative Fit Index; α = Cronbach's alpha; ICC: Intraclass Correlation Coefficient at the program level.

Table 6

Convergent and Discriminant Validity.

Measure	Parent Surveys (n=1374)	Parent Survey Effect Size	Youth Surveys (n=563)	Youth Survey Effect Size ^a
YSSF				
General Satisfaction	$r = .33^*$		$r = .18^*$	
Positive Outcomes	$r = .30^*$		$r = .18^*$	
Cultural Sensitivity	$r = .22^*$		$r = .17^*$	
Social Connectedness	$r = .29^*$		$r = .22^*$	
Service Type ^b				
Day Treatment	M = 3.43 ^c	N/A	M = 3.12 ^c	
Outpatient	M = 4.00	Cohen's d = .52 (v. Day Tx)	M = 3.59	Cohen's d = .39 (v. Day Tx)
Case Management	M = 4.05	Cohen's d = .57 (v. Day Tx)	M = 3.90	Cohen's d = .65 (v. Day Tx)
In-Home Behavior	M = 4.19	Cohen's d = .72 (v. Day Tx)	(n too small to compute)	
Attendance				
Time in Treatment ^d				
Less than one month	3.83 ^e	Partial eta- squared = .009	3.38	Partial eta- squared = .007
1–2 months	3.95		3.60	
3–5 months	3.98		3.58	
6 months to 1 year	4.10 ^e		3.66	
More than 1 year	3.90		3.59	
Family Therapy Sessions ^{f,g}				
None	3.89 ^e	Cohen's d = .23	3.49 ^e	Cohen's d = .26
1 or More	4.10 ^e		3.75 ^e	
Child Characteristics				
Age	$r = -.15^*$		$r = -.01$	
Gender				
Female	3.95	Cohen's d = .05	3.53	Cohen's d = .08
Male	4.00		3.62	
Ethnicity ^f				
Caucasian	3.92	Cohen's d = .09	3.75	Cohen's d = .19
Hispanic	4.00		3.55	
Primary Language ^{f,h}				
English	3.96	Cohen's d = .05	–	–
Spanish	4.01		–	

* $p < .05$ for estimate or comparison.

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^a Cohen's d.

^b ANOVA with Scheffe Post-Hoc tests.

^c Mean score is significantly lower than the mean scores for the other levels of care for parent and youth report separately.

^d ANOVA with Tukey's HSD Post-Hoc tests.

^e Mean scores significantly different from one another.

^f ANOVA

^g Sample size for parent analysis = 1237; sample size for youth analysis = 507

^h Sample size was too small to conduct this analysis on youth report.

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