


The Parent Experience of Assessment Scale (PEAS): Development and Relation to Parent Satisfaction

Assessment
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Abstract

This study outlines the development of the Parent Experience of Assessment Scale (PEAS), which is based on principles of Therapeutic Assessment. The study includes pilot testing of a 64-item questionnaire across 134 participants, with psychometric analyses utilizing confirmatory factor analysis. The revised version consists of 24 items across five subscales with appropriate internal consistency reliability (alphas from .76 to .88). The PEAS demonstrates statistically significant relations with general parent satisfaction, with two subscales indicating significant direct effects via structural equation modeling. The PEAS has the potential utility to provide more nuanced clinical and investigative feedback regarding the parent process during child psychological assessment.

Keywords

child assessment, parent satisfaction, Therapeutic Assessment, confirmatory factor analysis, structural equation modeling

Satisfaction measures are the most common form of gathering client feedback for medical and mental health services (Bodin et al., 2007; Lebow, 1982; Lewis, 1994). Consumer input in general is important as it can help refine and drive service changes, as well as provide predictors for health-related behaviors (Kaufman & Phillips, 2000). Dissatisfaction more broadly with the patient-provider relationship can predict poor treatment, underutilization of services, and premature termination (Attkisson & Zwick, 1982; Measelle, Weinstein, & Martinez, 1998; Pascoe, 1984).

Parent satisfaction has been the primary form of consumer input for child and adolescent services. Parallel to the general satisfaction literature, the importance of the parent relationship with the provider in predicting satisfaction has been found across education, health care, and mental health service domains (Byalin, 1993; Fantuzzo, Perry, & Childs, 2006; Huebner, Jones, Miller, Custer, & Critchfield, 2006; King, Cathers, King, & Rosenbaum, 2001; McNaughton, 1994; Plante, Couchman, & Hoffman, 1998). Outcomes such as symptom reduction are generally the least predictive of general parent satisfaction (Riley, Stromberg, & Clark, 2005) and demographics are not significantly related to parent satisfaction (Gerkenmeyer & Austin, 2005; Godley, Fiedler, & Funk, 1998; Measelle et al., 1998; Young, Nicholson, & Davis, 1995).

Parent Satisfaction With Child Psychological Assessments

Research to date suggests it is the experience of support and respect parents have when receiving mental health services for their child that is of primary importance to parent satisfaction (Lewis, 1994; Pascoe, 1984; Sheppard, 1993). However, research specific to child *psychological assessment* is very limited. The vast majority of studies of parent satisfaction focus on *mental health treatment* (Brannan, Sonnichsen, & Heflinger, 1996; Byalin, 1993; Godley et al., 1998; Martin, Peter, & Kapp, 2003; Riley et al., 2005; Young et al., 1995).

Previous work in parent satisfaction with child assessments has utilized measures developed for the larger client satisfaction literature, such as the Client Satisfaction Questionnaire (CSQ; Larsen, Attkisson, Hargreaves, &

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Nguyen, 1979), and general measures of parent relationship with child providers such as the Measure of Process of Care (King, Rosenbaum, & King, (1995), supplemented with assessment-specific items (Assessment Impact Questionnaire; Farmer & Brazeal, 1998). Findings have indicated parent satisfaction with assessment is multifactorial, which is consistent with the larger satisfaction literature (Bodin et al., 2007; Donabedian, 1988). General satisfaction is a major domain, as well as parent alliance with the clinician (e.g., acceptance, empathy) and assessment-specific outcomes (e.g., referrals, improvement in school services).

Therapeutic Assessment

Despite the importance of interpersonal factors for parent satisfaction, a clear theory of what and how these interpersonal processes interact in child psychological assessment has yet to be developed. Therapeutic Assessment (TA) has emerged as a model of child assessment that explicitly integrates relationship and collaboration with parents into its practice. Its constructs can be applied across various settings for child psychological or neuropsychological assessment. Approaching parent satisfaction from the theory of TA may provide an avenue to integrate and adapt the parent satisfaction literature to child psychological assessment.

TA created by Finn and colleagues (Finn, 2007; Finn & Tonsager, 1997, 2002) is a short-term semistructured intervention using psychological assessment at its core. In TA, parents are conceptualized as key collaborators in the assessment process. The goal is to guide parents to a more empathic understanding of their child and learn ways to shift family interactions toward more positive outcomes (Tharinger et al., 2008; Tharinger, Finn, Wilkinson, & Schaber, 2007).

Results from studies evaluating TA have found greater client self-esteem, increased hopefulness, greater likelihood of completing recommendations, and decreased symptomology (Finn & Tonsager, 1997, 2002; Tharinger et al., 2007). Mothers who have experienced TA with their children report more confidence in their parenting, a better understanding of their child's difficulties, and an increase in positive affect associated with their child's future outlook (Tharinger et al., 2009). Children have shown decreased behavior problems and improved social/emotional functioning (Fantini, Aschieri, & Bertrando, 2013; Hamilton et al., 2009; Smith, Handler, & Nash, 2010; Tharinger et al., 2009).

TA is designed to provide clients with a positive change experience, and can lead to increases in client motivation to continue with recommendations and services. The theoretical orientation of TA coincides with findings in the parent satisfaction literature, namely the importance of the interpersonal relationship between providers and families. A parent self-report measure designed to assess the quality of

these types of experiences could further clarify the importance of these process variables in contributing to parent satisfaction in child psychological assessment.

Measure Development

The Parent Experience of Assessment Scale (PEAS) was built on the theory of TA and previous research indicating the importance of interpersonal processes and relationship in parent satisfaction. The items on the PEAS came from two primary sources. The first was the Assessment Questionnaire-2 developed by Finn, Schroeder, and Tonsager (2004) which is based on TA with adults and includes items related to four areas: feeling understood and seen, new awareness from the assessment, positive relationship with the assessor, and negative feelings. Additional items were generated by research team members who had worked with and observed parents and children during TA and by reviewing transcribed parent interviews from previous research participants. Preliminary exploratory content analysis (Austin, 2011) created 64 pilot items in the following six domains: Collaboration, Parent-Assessor Relationship, Child-Assessor Relationship, New Understanding of Child, Systemic Awareness, and Negative Feelings.

Rationale for Initial Factors. "Collaboration" as conceptualized and practiced in TA includes the parents helping set the scope of the assessment, being informed about each step in the assessment process, contributing ideas about the validity of the test results, and working as a team with the assessor to help their child. TA strives to create a collaborative relationship by infusing assessment with aspects of therapy, such as "cognitive empiricism" in order to help parents be active partners in the assessment. Items similar to the Collaboration subscale can be found in the Participation in Treatment factor of the Youth Services Survey for Families (Riley et al., 2005) and individual items (kept me informed, find the right services, included me in decision making) on the Parent Satisfaction Scale (Gerkenmeyer & Austin, 2005).

"Parent-Assessor Relationship" includes feeling respected, liked, and listened to by the assessor. It also asks about the reciprocal relationship of the parent feeling close to the assessor, liking the assessor, trusting the assessor, and feeling the assessor was genuinely interested in helping. These items are similar to the Dignified Treatment factor from the Client Satisfaction Survey by Essex, Fox, and Groom (1981) and items from the Measure of Process of Care by King et al. (1995).

The "Child-Assessor" domain asks the parents their perception of how comfortable the child felt with the assessor, how well the assessor worked with the child, if the assessor and child both appeared to like each other, and if the assessor seemed to understand the child. Given the importance of

the overall relationship with providers in the satisfaction literature, the parent perception of the child–assessor relationship may also be an important factor in satisfaction with the assessment.

The “New Understanding of Child” domain includes parents learning new information from the assessment results. The scale does not focus on traditional child therapy outcomes such as changes in behavior that are historically poor predictors of satisfaction. Rather, it investigates feelings of better parenting skills and effectiveness, new ideas, and new understanding. Items are similar to those on the Assessment Impact Questionnaire by Farmer and Brazeal (1998). Their findings indicated that parents reported positive changes from pediatric neuropsychological assessment that altered how parents responded to their child, even when parents did not follow through on recommendations for therapy or treatment. This corroborates the theory of TA that an assessment can, and should, be conceptualized as a brief intervention that can positively alter parents’ relationship with their child.

“Systemic Awareness” items ask parents to recognize a more systemic understanding of the child’s emotional and behavioral problems. Examples include how family struggles affect the child and that family members may also need to change in order to help the child. This is one of the intervention aspects of TA with children, but it may not be highly related to overall parent satisfaction because parents may not feel comfortable about being asked to consider their own contributions to their child’s struggles. Still, these items were included because TA theory suggests that a systemic view of their child’s problems helps many parents feel more hopeful about resolving those problems.

The “Negative Feelings” domain asks parents about feelings of guilt, lack of parenting efficacy, feeling blamed, ashamed, or overwhelmed. The inclusion of items addressing potentially negative feelings was purposeful and an attempt to integrate an often overlooked domain in satisfaction measures. The parent satisfaction literature has thus far phrased questions on parent surveys in a positive and neutral frame (Were you satisfied with . . .) and only qualitative comments allowed clients to express negative feelings or suggestions (Essex et al., 1981). Williams, Coyle, and Healy (1998) demonstrated that high reported levels of satisfaction do not mean that clients did not have negative experiences with services. This domain also has the potential to provide valuable feedback for program revision to determine predictors of early termination or so that parents who feel blamed or anxious can receive more support in the future.

Item Development. One of the largest issues in the satisfaction literature appears to be the high levels, or “ceiling effect” of satisfaction reported by respondents (Attkisson & Zwick, 1982; Godley et al., 1998; Larsen et al., 1979; Lebow, 1982; Young et al., 1995). Ratings with satisfaction measures are

typically high, with 70% to 80% getting maximal scores (Essex et al., 1981; Riley et al., 2005). To improve variability, some items on the PEAS were explicitly designed to be more extreme than others. For example, the item “I learned a tremendous amount about my child from the assessment” is more extreme than “I learned a lot from the assessment.” The first item differentiates between those parents who found the assessment very insightful versus those who found it merely helpful or routine. Making items of varying intensity was a purposeful approach to try to reduce the ceiling effect so often associated with satisfaction measures.

Items within each category were keyed both positively and negatively, introducing the need for reverse scoring. Negatively keyed items are often used to counteract acquiescence or agreement bias (DeVellis, 2003). Items were also designed at a fourth-grade reading level and with natural language wording that avoided jargon.

Current Study

The purpose of this study was to test and revise the pilot version of the PEAS, which, as discussed earlier, was composed of items generated from an adult measure and items developed from research team members working with child TA, and subsequently subjected to a content analysis by the first author.

Aim 1. Investigate the structure of a six-factor model of the PEAS, test competing models, and provide a revision of the pilot version utilizing confirmatory factor analysis (CFA). The initial PEAS development was based clearly on the theory of TA which allowed for more theory-driven analysis. CFA requires a strong a priori theoretical model of factors and pattern of factor loadings. The advantage of CFA is that it allows a researcher to test specific hypotheses about the data and compare competing models (Keith, 2015).

Aim 2. Explore the relationship of the revised PEAS subscales to general parent satisfaction expecting interpersonal processes to have the strongest relations with general satisfaction. We wanted to more clearly define the processes in child psychological assessment expected to predict general parent satisfaction. It was hypothesized that the Parent–Assessor Relationship, Collaboration, and Child–Assessor Relationship subscales would have the strongest relationship to general parent satisfaction. The Negative Feelings subscale was expected to have an inverse relationship to general satisfaction.

Method

Participants

Participants consisted of 134 parents or legal guardians of children and adolescents who received a psychological or

neuropsychological assessment. There were no exclusionary criteria in terms of child diagnosis or level of functioning. All assessments were conducted with clients in the community or school settings; no assessments were of psychiatrically or medically hospitalized children. Parent respondents were English speaking.

Respondents for the PEAS included biological parents (68%) and nonbiological parents (i.e., adoptive/foster parents, guardians). The majority of parent respondents were female (80%). The children and adolescents who were assessed ranged from 4 to 18 years of age, with a mean of 9.72 years ($SD = 3.2$ years). The majority of children and adolescents receiving assessments were male (64%). Child and adolescent descriptions of ethnicity were African American (34%), Caucasian (28%), Hispanic (10%), and Other (9%); ethnicity was not reported in 19% of cases.

Sites

This is the first known study to date of parental satisfaction with child psychological assessment to include a range of child outpatient settings, including a public school, neuropsychological practice, community assessment center, and private practice. Site A was a private neuropsychological clinic that primarily evaluates learning disabilities, attention deficit hyperactivity disorder (ADHD), autism spectrum disorders, traumatic brain injury, and other neurological disorders. Site A contributed both standard practice and collaborative assessment protocols to the database through a dissertation study evaluating the effects of adding a child feedback session and fable to the assessment process (Pilgrim, 2010).

Site B was a community mental health clinic that primarily serves at-risk families, including foster parents, adoptive parents, and legal guardians. Site B's assessment practice follows a collaborative/therapeutic model including gathering assessment questions, letters to parents, and child fables. The assessments at Site B primarily address emotional and behavioral problems, such as ADHD, anger problems, and externalizing behaviors.

Site C was a private assessment clinic that conducts assessment for learning disabilities, ADHD, autism spectrum disorders, and independent educational evaluations. PEAS data were collected following the clinic's standard assessment practice as part of a dissertation (Matson, 2011).

Site D was a school district that conducts evaluations to determine eligibility for special education services, including learning disabilities and behavioral/emotional concerns. Site D contributed both standard practice and collaborative assessment PEAS protocols as part of a dissertation comparing the addition of components of TA (Fowler, 2010).

Instrumentation

Parent Experience of Assessment Scale—Pilot Version. The preliminary scale consisted of 64 items composing the six subscales listed above, with item order mixed among the different subscales. The measure is based on a 5-point Likert-type scoring system, with some reverse scored items.

The Client Satisfaction Questionnaire (CSQ-8). The CSQ-8 (Attkisson & Zwick, 1982; Larsen et al., 1979) is the most widely used measure for general client satisfaction. Although originally normed for adult clients, it has more recently been used in parent satisfaction studies (Bodin et al., 2007; Byalin, 1993; Gerkenmeyer & Austin, 2005). The CSQ-8 is single-factor scale with high (.93-.96) reported reliability (Attkisson & Zwick, 1982; Gerkenmeyer & Austin, 2005).

Procedure

Each site was provided packets of the instruments and consent forms to be distributed to study participants. Parents/guardians were asked to complete the PEAS and the eight-item CSQ as a checkout procedure after the last assessment or feedback meeting. The data collection was not anonymous, but occurred following the conclusion of the assessment so parents were not asked to rate a clinician from whom they were still receiving services. The PEAS protocol was presented consistently in terms of wording, order, and number of items.

Analysis

The study obtained institutional review board approval. A deidentified database was created in SPSS 17.0 (SPSS Inc., 2008). Structural equation modeling (SEM) was conducted using Amos version 7.0 (Arbuckle, 2006). There was virtually no missing data for the 134 PEAS protocols with only 3 missing out of 8,576 individual item responses. Maximum likelihood estimation was used to impute missing values in a database that allowed for the calculation of modification indices in the subsequent analysis.

Descriptive Statistics

Basic descriptive statistics for demographics were analyzed. Chi-square and analysis of variance (ANOVA) were used to check for overrepresentation/underrepresentation of participants with a significance level of .01 due to multiple analyses. Scale scores and items were evaluated for excessive skewness (>2.00) and kurtosis (>7.00) to determine whether measures were univariate normal (Curran, West, & Finch, 1996).

Analysis 1: Scale Revision and Factor Structure of the PEAS

The predicted revision model was a first-order, six-factor model of the PEAS. A cutoff of .5 was established for items to be retained on a subscale and it was expected that most items would load above .60 (Brannan et al., 1996). A higher order model was also tested to control for the influence of general satisfaction, which was hypothesized to influence the PEAS subscales. Psychometric properties were also analyzed, including Cronbach's alpha for each subscale and corrected item-total correlations.

Root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), comparative fit index (CFI), and Tucker–Lewis Index (TLI) were used to evaluate models in isolation. For RMSEA, values below .08 indicate reasonable fit, and values below .05 indicate good fit; for SRMR values below .08 also indicate good fit. Values above .90 represent adequate fit, and values above .95 for CFI/TLI indicate good fit (Hu & Bentler, 1999). Change in χ^2 was used to compare competing, nested models, and the Akaike information criterion (AIC) was used to compare competing, nonnested models. Lower values for AIC suggest better fit. Statistically significant values for $\Delta\chi^2$ compared with Δdf were taken as evidence for the acceptance of the less parsimonious model, whereas a non-significant value was used as evidence in favor of a more parsimonious model. (For further discussion of fit, see Hu & Bentler, 1998, 1999; Keith, 2015; Kline, 2010; Reynolds & Keith, 2009).

Analysis 2: Relationship of PEAS Subscales to Overall Satisfaction

Correlations were compared for statistically significant values between subscales and general satisfaction. In addition, SEM was used to test a model showing the influence of each revised PEAS subscale on general satisfaction, as represented by the CSQ scores. The CSQ scores were represented by a single indicator on the latent General Satisfaction variable. When using a single measured indicator for a latent variable, setting the error variance can account more accurately for error. The error variance for the CSQ was derived from the reliability and variance of the measure and set to .0204 (Hayduk, 1987).

Results

Descriptive Statistics

The following is a breakdown of participants by site: Site A, private neuropsychological clinic, 27%; Site B, community mental health clinic, 43%; Site C, private assessment practice, 18%; Site D, public school district, 12%. Child age

was not significantly correlated to preliminary PEAS subscales ($p > .04$). There were no significant differences between sites for respondent gender, child gender, or preliminary PEAS scores or CSQ scores ($p > .04$). There were no main effects or interactions between child ethnicity by site or initial PEAS and CSQ scores ($p > .05$).

General Satisfaction (CSQ). A total of 115 CSQ scores were available for analysis, as Site D did not collect parent satisfaction data. Site B used either the CSQ-8 or a shortened version, the CSQ-4 ($n = 23$), to collect parent satisfaction. There were no statistically significant differences between the three sites that collected general satisfaction scores regardless of whether the CSQ-4 protocols were included, $F(2, 114) = 1.373, p > .05$ or not $F(2, 91) = .869, p > .05$. Both versions of the CSQ had Cronbach's alpha reliability estimates of .92, which are consistent with reliability estimates of the CSQ in previous studies.

Item Normality. Items 1, 34, 41, and 60 on the PEAS were nonnormal in distribution and were closely tracked in the PEAS scale revision. The vast majority of PEAS items (94%) met criteria for normality, indicating that analyses that assume univariate normality were appropriate.

Analysis 1: Scale Factor Structure and Revision

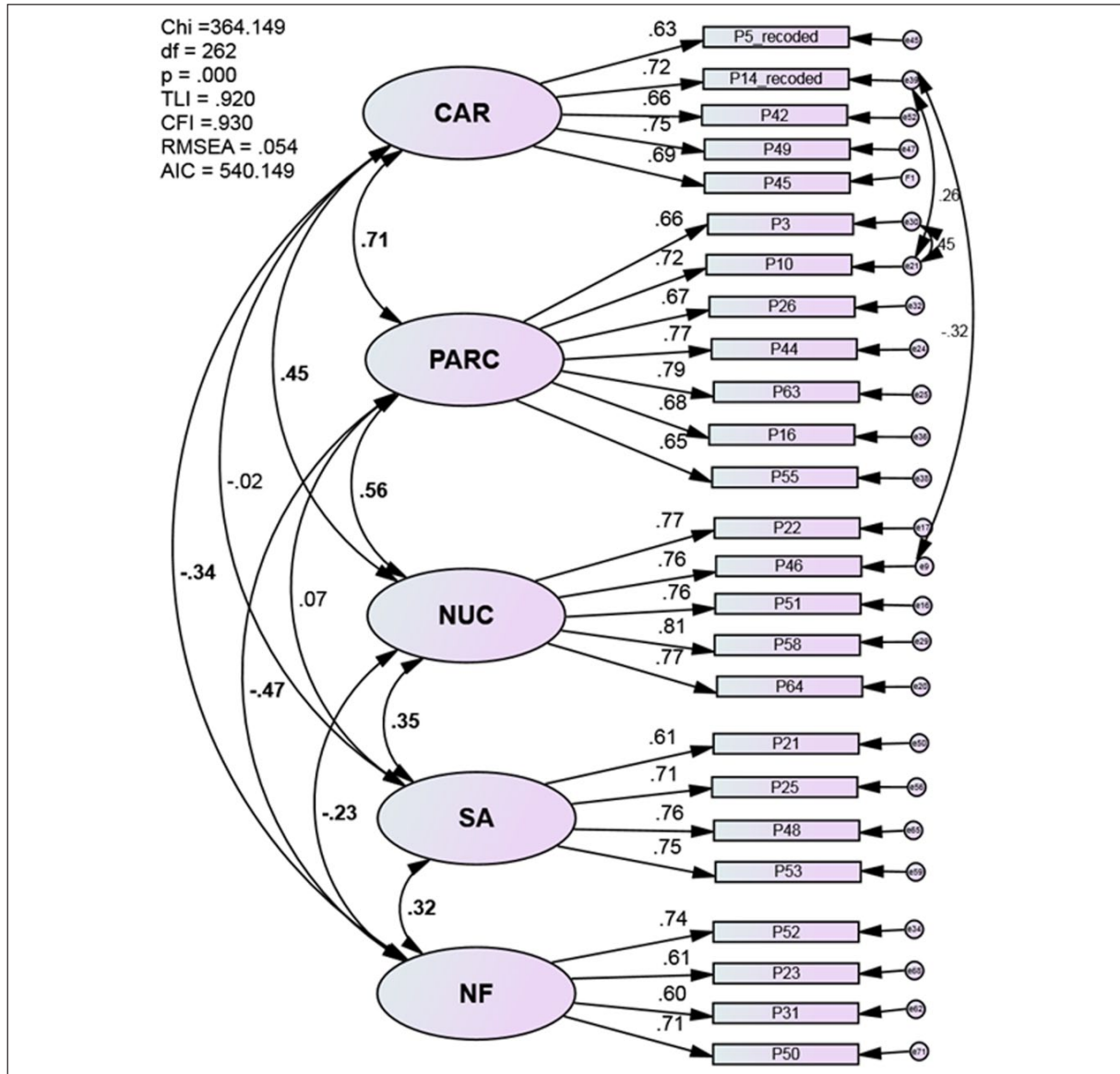
First-Order Model. The initial model of the pilot PEAS tested was a first-order model showing the six latent factors (subscales) and the items designated to load on each subscale. Items not meeting the .50 cutoff were removed from each subscale and 45 items remained. Due to the number of remaining items, the cutoff was raised to .60 and additional items were removed. After this phase of revision, each of the six subscales had either four or five items, with 27 items total (see Table 1). As shown in the table, although χ^2 for this model (and subsequent models) was statistically significant, all other fit indices suggested an adequate fit of the model to the data.

Five-Factor Model. Throughout the revision, the correlation between the Parent–Assessor Relationship factor and the Collaboration factor remained high (.89 and above) and increased to .94 for the 27-item model. Due to this high correlation, a model combining these two factors was tested. Once the Parent–Assessor Relationship and Collaboration (PARC) subscales were combined, two items were removed for not meeting the .60 cutoff. Table 1 shows the comparison between the initial six-subscale model and five-subscale model. The five-subscale model with 25 items demonstrated better overall fit, as noted by the decrease in AIC and by improvements in TLI, CFI, and RMSEA. The five-subscale model is presented in Figure 1.

Table 1. Fit Indices for Combining Parent–Assessor Relationship and Collaboration Factors.

Model	χ^2	df	TLI	CFI	RMSEA	SRMR	AIC
6 Factor (27 items)	439.431	308	.91	.92	.057	.078	633.431
5 Factor (25 items)	364.149	262	.92	.93	.054	.077	540.149

Note. *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike information criterion.

**Figure 1.** First-order five-factor model.

Note. *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion; CAR = Child–Assessor Relationship; PARC = Parent–Assessor Relationship and Collaboration; NF = Negative Feelings; NUC = New Understanding of Child; SA = Systemic Awareness. Significant correlations in bold.

Table 2. Fit Indices for Second-Order PEAS Model Comparisons.

Model	χ^2	df	$\Delta\chi^2$	Δdf	p	TLI	CFI	RMSEA	SRMR	AIC
Second-order general model	366.228	266				.92	.93	.053	.079	534.228
Second-order PARC	366.638	268	.41	2	.814	.93	.93	.053	.079	530.638

Note. PEAS = Parent Experience of Assessment Scale; df = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike information criterion; PARC = Parent–Assessor Relationship and Collaboration.

Second-Order Model. A second-order (hierarchical) model was tested to see if a general factor could account for the significant correlations among the PEAS subscales. The PARC factor had a loading of .96 on the general relationship factor. A model replacing the general relationship factor with the PARC subscale did not result in a statistically significant worse fit for the model, and with more degrees of freedom, became the preferred model (Table 2). An item was removed from the Child–Assessor Relationship subscale which showed poor fit in additional analyses of metric invariance (see Austin, 2011).

Final Model and Scale. Figure 2 shows the 24-item final model of the PEAS revision. Subscale statistics and items are provided in Table 3. This final model showed an adequate to good fit to the data. The Cronbach alpha reliability and descriptive statistics for the five revised PEAS subscales indicated appropriate to strong reliability, with no significant skewness or kurtosis. The revised PEAS protocol, including order of items, is available from the authors.

Demographic Findings for Revised Model. Various demographics for child and parent respondents were compared via ANOVA or independent t tests to check for statistically significant differences based on the revised PEAS subscales. ANOVA showed no significant main effects or interactions for child ethnicity ($p > .09$) or sites ($p > .07$). Independent t tests found no significant differences on PEAS scores by parent or child gender ($p > .05$). Child age was not significantly correlated with PEAS subscales ($p > .07$).

Analysis 2: Relations of PEAS Subscales to General Satisfaction

Two-tailed Pearson correlations between the revised PEAS subscales and the CSQ scores were significant ($p < .05$; see Table 4). Contrary to our hypothesis, New Understanding of Child had the strongest correlation with general satisfaction. As expected, Negative Feelings was inversely correlated with satisfaction.

SEM was used to investigate the latent factors of the revised PEAS subscales and their relations to general satisfaction, as represented by CSQ scores. The initial model used the first-order five-factor model of the revised PEAS subscales. Each subscale was hypothesized to have a direct

effect on General Satisfaction and subscales were allowed to correlate with each other (Figure 3). Only New Understanding of Child and Child–Assessor Relationship had significant direct effects on General Satisfaction. The other subscales had nonsignificant direct effects on satisfaction. The model showed moderate, but not great fit (see Table 5).

The analysis was revised to reflect the second-order model found on the PEAS scale revision (Figure 4). Nonsignificant direct effects to General Satisfaction were removed. Residuals were allowed to correlate in the same pattern as on the scale revision. New Understanding of Child (.57) and Child–Assessor Relationship (.31) continued to have the only significant direct effects on general satisfaction. PARC had significant direct effects on Child–Assessor Relationship, New Understanding of Child, and Negative Feelings. PARC had a significant indirect effect on general satisfaction (.52). The model showed substantially improved fit (see Table 5).

Discussion

Part of what is unique about the psychological assessment of children and adolescents is the role of parents (Gerkenmeyer & Austin, 2005). It is parents who are the primary recipients of the assessment results and who need to follow through on recommendations. They are the primary caregivers of the child and play a key role in the success of any future treatments. Parent satisfaction has consistently been linked to parent–provider relationship, but very little research has examined child psychological assessment.

The PEAS was developed based on the theory of TA, which highlights the importance of a strong parent–assessor relationship and collaboration during the child assessment process. Although initially conceptualized as two distinct domains of Collaboration and Parent–Assessor Relationship, the factor analysis and revision of the pilot PEAS indicated that these two subscales were better reflected as one homogenous factor.

We expected that the relationship between the parents and assessor would have the strongest relation to satisfaction. However, we found that PARC was a hierarchical factor with a strong indirect effect on satisfaction, with direct effects on other subscales. Conceptualizing the PARC as a single hierarchical factor has implications for clinical practice as well as quality improvement efforts. TA theory posits that the strong interpersonal relationship between the

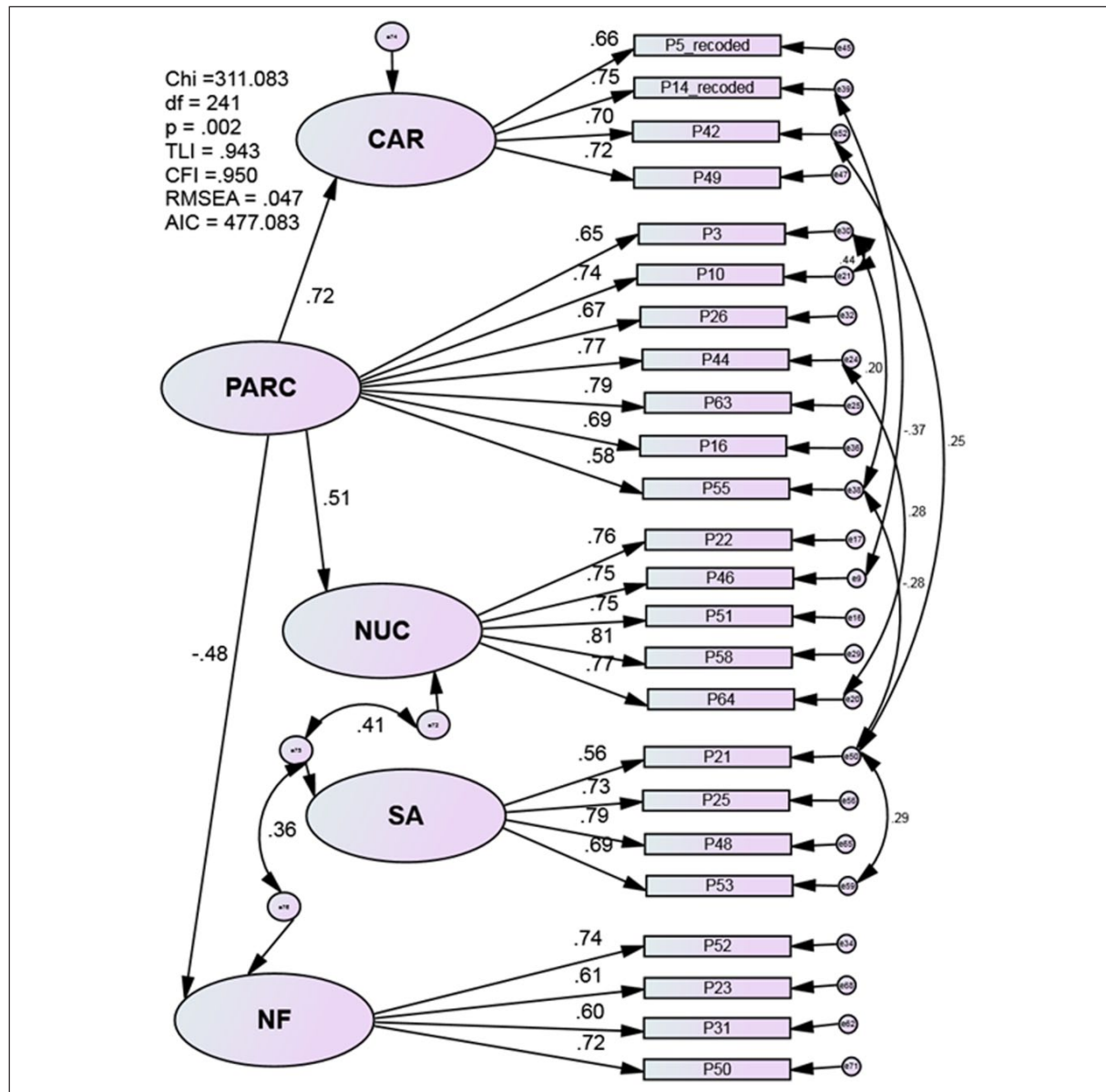


Figure 2. Final revised PEAS hierarchical model.

Note. PEAS = Parent Experience of Assessment Scale; *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion; CAR = Child–Assessor Relationship; PARC = Parent–Assessor Relationship and Collaboration; NF = Negative Feelings; NUC = New Understanding of Child; SA = Systemic Awareness.

family and assessors facilitates greater assimilation and depth of assessment findings for parents. However, psychological assessments are not typically viewed as therapy or intervention, and thus relationship factors may not be as emphasized in training. Being able to assess the factors that contribute to or underlie general satisfaction with child psychological assessment provides more specific feedback that can lead to concrete changes in clinical care.

This initial investigation indicates that parents' New Understanding of Child can be seen as distinct from general parent satisfaction. This is a shift in conceptualization compared with previous studies of child assessment (Bodin et al., 2007; Farmer & Brazeal, 1998). New Understanding of Child had the strongest correlation and *direct* effect on general parent satisfaction. This relationship to general satisfaction suggests a tentative explanation as to why “outcomes” such as changes in child

Table 3. Reliability and Descriptive Statistics for Revised PEAS Subscales.

Subscale	Alpha	N of items	Mean	SD	Skewness	Kurtosis
Parent–Assessor Relationship and Collaboration The assessor was genuinely interested in helping us. I felt the assessor respected me. I was informed about each step of the assessment. I liked the assessor. I trusted the assessor. I felt that my opinion was valued. The assessor really listened to me.	.88	7	4.37	0.53	-0.678	0.378
New Understanding of Child I have lots of new ideas about how to parent my child. I learned a tremendous amount about my child from this assessment. I am better able to communicate with my child. Now I know what to expect from my child. I understand my child so much better now.	.88	5	3.74	0.77	-0.983	1.810
Child–Assessor Relationship My child felt comfortable with the assessor. My child never really warmed up to the assessor (R). My child and the assessor really connected well. My child did not like the assessor (R).	.79	4	4.17	0.69	-1.080	1.933
Systemic Awareness My child's problems are partly caused by other struggles in our family. Many of my child's difficulties have to do with our family. The assessment revealed how family members play a role in my child's problems. I now see how our family's problems affect my child.	.80	4	2.75	0.94	0.045	-0.572
Negative Feelings The assessment made me feel ashamed. I felt blamed for my child's problems. The assessment made me feel like a bad parent. I felt judged by the assessor.	.76	4	1.63	0.65	1.113	1.878

Note. PEAS = Parent Experience of Assessment Scale. (R) = reverse scored.

Table 4. Correlation of PEAS Subscales With CSQ Score.

Measure	1	2	3	4	5
1. General Satisfaction (CSQ)	—				
2. Parent–Assessor Relationship and Collaboration	.48**	—			
3. New Understanding of Child	.64**	.48**	—		
4. Child–Assessor Relationship	.45**	.57**	.32**	—	
5. Systemic Awareness	.20*	.04	.28**	-.04	—
6. Negative Feelings	-.24*	-.32**	-.17	-.25**	.31**

Note. PEAS = Parent Experience of Assessment Scale; CSQ = Client Satisfaction Questionnaire.

* $p < .05$. ** $p < .01$.

behavior or follow through on recommendations may not be as predictive of satisfaction for child psychological or neuropsychological assessment. Providing answers to parents' assessment questions in a way that leads to new ideas and enhanced understanding of their child may be a key component to predicting parent satisfaction with child assessment services.

The parents' perception of the Child–Assessor Relationship also had a significant direct effect on general satisfaction.

Higher scores indicate that the parents felt the child was comfortable with and worked well with the assessor. This subscale may serve as a proxy for the parent's feeling of the overall validity of the assessment and subsequent findings.

In summary, the hierarchical model of the PEAS and the SEM analysis suggest preliminary findings consistent with TA theory. Namely, there appear to be three fundamental processes that affect general parent satisfaction with

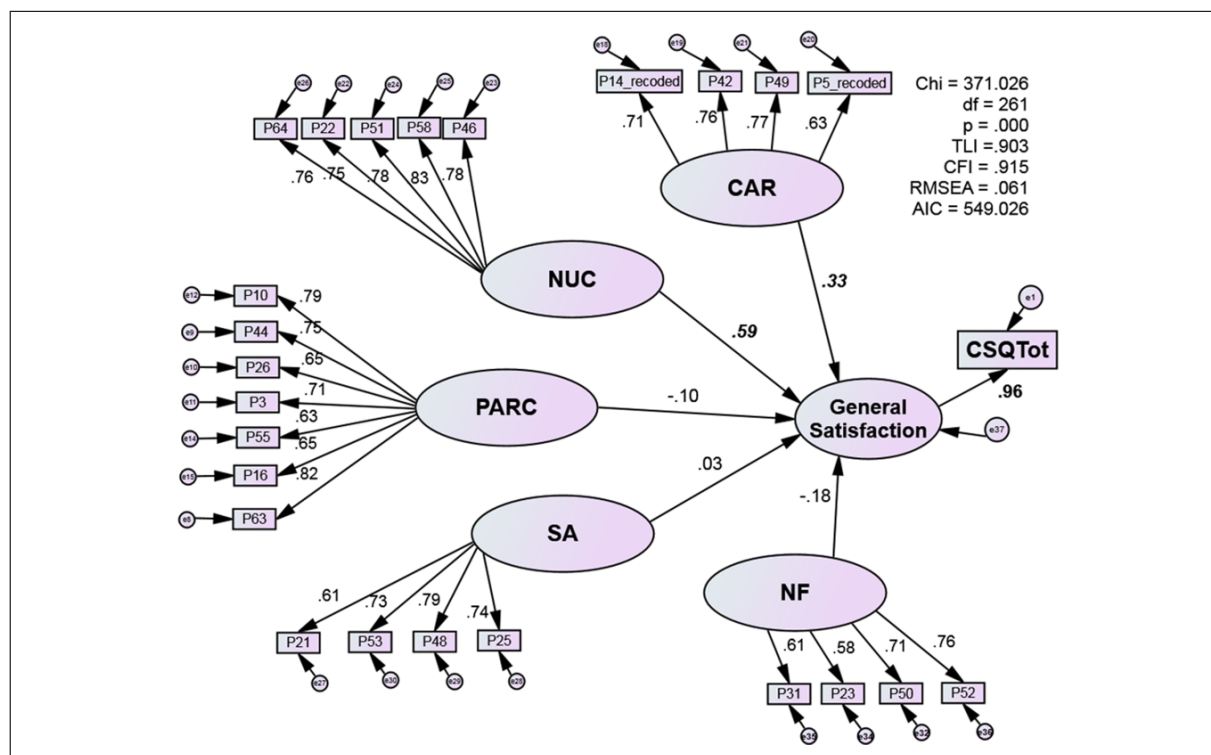


Figure 3. SEM of direct effects of PEAS subscales on General Satisfaction.

Note. SEM = structural equation modeling; PEAS = Parent Experience of Assessment Scale; *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion; PARC = Parent–Assessor Relationship and Collaboration; NF = Negative Feelings; NUC = New Understanding of Child; CAR = Child–Assessor Relationship; SA = Systemic Awareness; CSQ = Client Satisfaction Questionnaire. Subscale correlations not shown. Significant direct effect in bold italic.

Table 5. SEM Models Relating PEAS Subscales to General Satisfaction.

Model	χ^2	<i>Df</i>	$\Delta\chi^2$	Δdf	<i>p</i>	TLI	CFI	RMSEA	SRMR	AIC
Direct effects	371.026	261				.90	.92	.061	.079	549.026
Direct and indirect effects	309.298	260	61.73	1	<.000	.96	.95	.042	.079	491.125

Note. PEAS = Parent Experience of Assessment Scale; SEM = structural equation modeling; *df* = degrees of freedom; TLI = Tucker–Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; AIC = Akaike information criterion.

psychological or neuropsychological assessment. The assessor must (a) establish a positive alliance with parents, (b) develop a positive rapport with the child (as evaluated by the parents), and (c) provide answers to parent assessment questions to enhance their understanding of their child.

Limitations and Future Directions

Limitations related to data collection and sampling for the current study included missing CSQ data for one site. Due to the multisite/multistudy nature of the data collection,

there was some variability in the data collection procedures (paper, electronic, or phone). Collection method was not reported for each case and some sites used multiple methods. This prevented analysis of collection method across sites. Similarly, the pilot nature of the study prevented replication of findings through a cross-validation sample.

One of the strengths of the study was the variety of sites and clientele administered the pilot version of the PEAS. However, specific questions regarding covariates such as socioeconomic status, specific diagnosis, or type of assessment would need to be explored with more homogenous or

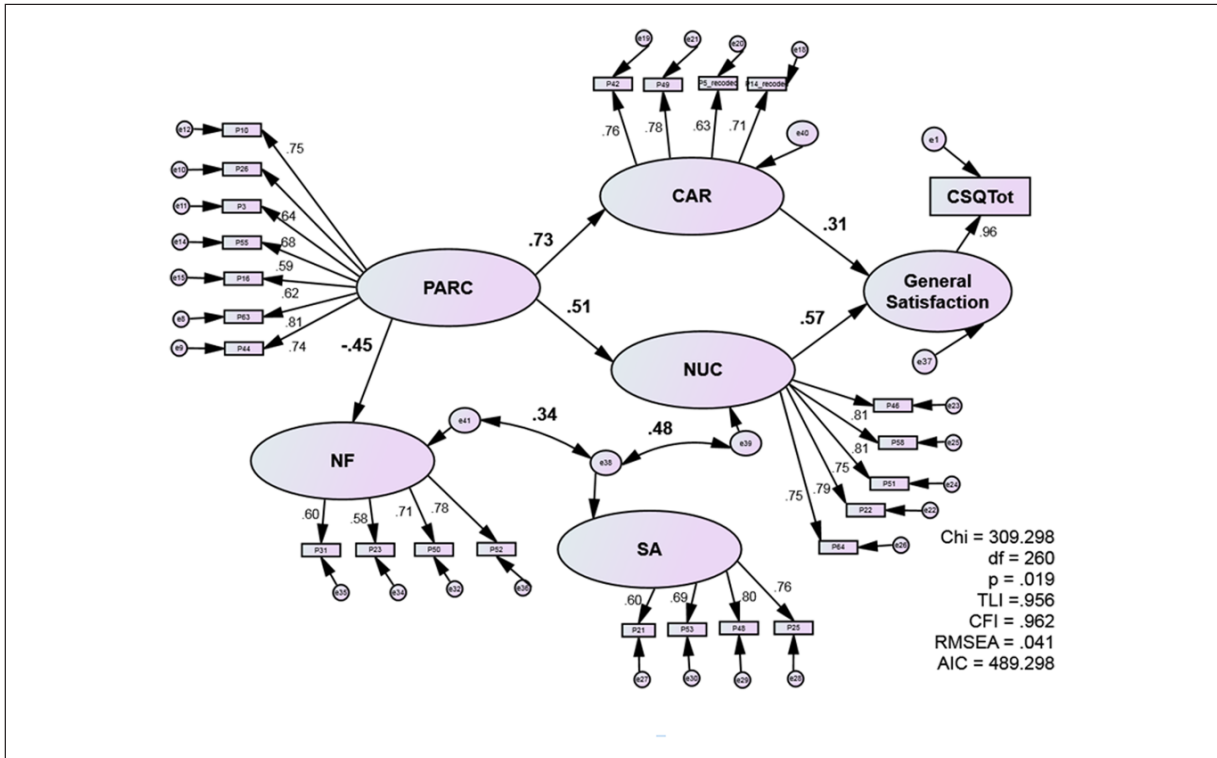


Figure 4. SEM direct and indirect effects of PEAS on General Satisfaction. Note. SEM = structural equation modeling; PEAS = Parent Experience of Assessment Scale; PARC = Parent-Assessor Relationship and Collaboration; NF = Negative Feelings; NUC = New Understanding of Child; CAR = Child-Assessor Relationship; SA = Systemic Awareness; CSQ = Client Satisfaction Questionnaire; *df* = degrees of freedom; TLI = Tucker-Lewis Index; CFI = comparative fit index; RMSEA = root mean square error of approximation; AIC = Akaike information criterion. Shown without correlated errors for clarity.

controlled samples. All four of the sites provide outpatient assessment services, and so assessments with inpatient populations may also be needed for further comparison.

CFA and χ^2 are sensitive to sample size, with older rules of thumb recommending 5 to 10 subjects per factor. However, more recent studies indicate that the level of communality and overdetermination of factors have more influence than strict sample size on the recovery of population factors (Guadagnoli & Velicer, 1988; MacCallum, Browne, & Sugawara, 1996). Having at least three to four variables per factor and loadings of .60 or above decrease the influence of sample size (Keith, 2015). Accordingly, sample sizes of at least 100 may be adequate for CFA if these additional criteria are met (MacCallum, Widaman, Zhang, & Hong, 1999).

Overdetermination was high within the current study; each factor initially had 10 to 14 variables, with the goal to reduce to approximately 5 variables per factor. The communalities were also high with loadings above .6 for retained items. Although the sample size was above the minimum 100 cases recommended for CFA (MacCallum et al., 1996; MacCallum et al., 1999), a larger sample size would have provided even stronger data in terms of fit of models.

Although general satisfaction was used to help provide evidence of convergent construct validity, further validity studies for the PEAS constructs measured by the subscales are needed. Future studies could include multifactor or multitrait methods to further establish concurrent and divergent validity. General satisfaction is a first-order or immediate outcome of an assessment; however, follow-up studies are needed to measure second-order outcomes, such as follow through on assessment recommendations and maintenance of outcomes.

Conclusion

The PEAS was created based on the theoretical orientation of TA. The current study revised the 64-item pilot measure to a 24-item parent questionnaire with appropriate reliability. The reduced length and distilled subscales makes the PEAS more feasible for use in clinical and research practice. Although based on the theory of TA, the PEAS was tested in a range of outpatient child psychological assessment types and settings. The initial development of the PEAS subscales indicates significant direct and indirect relations to general

parent satisfaction of child psychological and neuropsychological assessment services.

The current study has provided initial evidence supporting the theoretical hypotheses of TA, such as demonstrating the hierarchical nature of the PARC subscale. This is consistent with prior research findings of the importance of interpersonal relationships to satisfaction. In the current study, although the parent–assessor relationship was necessary, it was not sufficient in and of itself for general satisfaction. The distinct domain of New Understanding of Child had the most significant, direct effect on parent satisfaction, which may be particularly relevant for satisfaction with child assessment services. Advantages of the PEAS include a more nuanced understanding of different aspects of parents' experiences during their child's psychological assessment than traditional measures of parent satisfaction that can inform clinical practice and quality assurance programs. Lastly, the study highlights that relationships between families and practitioners are important in parent satisfaction with the assessment process, just as in more traditional forms of child mental health services and interventions.

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