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Parent and child experiences of neuropsychological assessment as a function of child feedback by individualized fable

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This study evaluated whether receiving developmentally appropriate feedback in the form of individualized fables would affect how children and their parents reported experiencing a neuropsychological assessment. Participants were 32 children who underwent a neuropsychological assessment, along with one of their parents. The evaluation process, including the provision of parent feedback, was standard for the setting, a private practice of neuropsychology. The only addition was the provision of child feedback through a fable, given to the experimental group prior to the collection of research measures and to the comparison group after the collection of research data. Multivariate and univariate statistics were used to test differences between the two groups. Results indicated that children in the experimental group reported a greater sense of learning about themselves, a more positive relationship with their assessor, a greater sense of collaboration with the assessment process, and a sense that their parents learned more about them because of the assessment than did children in the comparison group. Parents in the experimental group reported a more positive relationship between their child and the assessor, a greater sense of collaboration with the assessment process, and higher satisfaction with clinic services compared to the comparison group. Limitations and implications for future research and assessment practice with children are discussed.

Keywords: Assessment; Feedback; Children; Fables; Parents.

Neuropsychological assessments, although advantageous for treatment planning, have been found to be time-consuming, challenging, and often frustrating for clients (Westervelt, Brown, Tremont, Javorsky, & Stern, 2007), and results are often not well understood (Donofrio, Piatt, Whelihan, & DiCarlo, 1999). Providing digestible and meaningful feedback is one process that has been shown to positively impact client perceptions of the utility of neuropsychological assessment (Westervelt et al., 2007). In the case of neuropsychological assessments of children, it is essential that parents anticipate and find significant value in their child’s evaluation. But it is also important that the children find value and self-understanding, as many of these children will undergo multiple assessments in their lifetime and be referred to educational and therapeutic services to help address their challenges. Experiencing engaging and meaningful feedback may well enhance their willingness to participate fully in future assessments and interventions.
Means of providing assessment feedback to children have received little research attention, regardless of the focus of the psychological evaluation (Berg, 1985; Tharinger, Finn, Hersh, et al., 2008). The American Psychological Association’s ethical guidelines (2002) indicate that feedback to the parent(s) is ethically obligated, but feedback to children is somewhat discretionary. Proponents of collaborative/therapeutic assessment models would argue that it is not a matter of whether or not children should receive feedback but rather how to give children beneficial information that is individualized to their condition and developmentally appropriate for their unique cognitive and emotional maturity. Findings from case studies and research in the field of personality assessment are accumulating on the personal benefits and clinical importance of collaboratively providing feedback to children (Finn, 2007; Fischer, 1985; Hamilton et al., 2009; Purves, 2002; Tharinger et al., 2009; Tharinger, Finn, Hersh, et al., 2008; Tharinger, Finn, Wilkinson, & Schaber, 2007), including increased self-esteem, increased feelings of hope, enhanced self-awareness and self-understanding, and decreased symptomatology. Providing neuropsychology clients developmentally appropriate feedback stands to be beneficial and to increase consumer satisfaction with the assessment process, a claim well stated by Gorske and Smith (2009).

One method of providing feedback to children, drawn from Fischer’s (1985) work and explicated by Tharinger, Finn, Wilkinson, et al. (2008), is the creation of individualized therapeutic fables. Used with children by parents, teachers, and elders for centuries, fables have shown utility as a therapeutic and intervention technique (Bhattacharyya, 1997; Holmes, 1993; Mutchnick & Handler, 2002). The “reconstruction” of a child’s assessment experience and the information gleaned from that assessment forms the basis of an individualized therapeutic fable. Tharinger, Finn, Wilkinson, et al. offer explicit guidelines for constructing individualized fables. The purpose of this study was to determine whether receiving neuropsychological assessment findings in the form of individualized therapeutic fables would have an influence on children’s and parents’ experience of the assessment. The goal of this research study was to compare outcomes from two groups of children undergoing neuropsychological evaluation in which the groups differed on only one variable: whether or not the child, accompanied by parents, received individualized feedback in the form of a fable, prior to the collection of research measures. In both groups, the parents received feedback prior to receiving the fables and completing the research measures.

**METHOD**

Resultant participants were 32 children (23 boys and 9 girls), and 32 parents, one per child (81% mothers). The mean age of child participants was 9.0 years ($SD = 1.79$). The majority of children in the sample were Caucasian European-American (88%) and middle to upper socioeconomic status as determined by parental level of education. Referral concerns included inattention and hyperactivity, academic difficulties, and concomitant social/emotional issues. Child participants with a Full Scale IQ of less than 70 were excluded. As a result of their evaluation, a majority of the children (63%) received a diagnosis of a type of attention deficit disorder. The second most common was Central Auditory Processing Disorder (CAPD), followed by Dysgraphia.

The study was approved by the Institutional Review Board of the authors’ university and consent and assent obtained. Three research measures were used; two completed by the parents and one by the children. The Parent Experience of Assessment Survey (PEAS) is a 64-item paper-and-pencil questionnaire developed by a university-based therapeutic child
assessment clinic (Finn, Tharinger, & Austin, 2008). Five subscales for the PEAS were determined through factor analysis: Learned New Things, Assessor-Child Relationship, Negative Feelings about the Assessment, Assessor-Parent Relationship, and Collaboration. Reliability (coefficient alpha) within this sample ranged from .67 for Negative Feeling to .90 for Assessor-Parent Relationship. The Client Satisfaction Questionnaire (CSQ-8; Larsen, Attkisson, Hargreaves, & Nguyen, 1979) is a widely used measure for general client satisfaction, and was completed in this study by the parents. The CSQ-8 is a single-factor scale with a reported internal consistency range of .86—.94 (Corcoran & Fischer, 2000). The Child Experience of Assessment Survey (CEAS) is a 30-item paper-and-pencil exploratory instrument also developed by the same clinic (Tharinger & Pilgrim, 2008). The resultant subscales of the CEAS are: Learned New Things, Feelings about the Assessment, Child-Asessor Relationship, Perception of Parent Understanding, and Collaboration. Reliability ranged from .71 for Perception of Parent Understanding to .85 for Collaboration.


Aspects of each assessment, including the clinical interview, were conducted by a licensed neuropsychologist. The remainder of the battery, typically completed in one day, was administered by a psychometrist employed by the clinic who was supervised by the involved neuropsychologist. Upon completion of the evaluation, all parents returned within 1 to 3 weeks for a parent-only feedback session with the neuropsychologist, as per standard practice. Following, parents were contacted by the second author to schedule the combined research and child feedback fable session. Neither the neuropsychologists nor the psychometrists were aware of the treatment group assignment until after each assessment and the parent feedback was completed and each feedback fable was written. Each child-parent pair was randomly assigned to either the experimental or comparison group. In the experimental group, the children and parents received their fable and then completed the research measures. In the comparison group, the children and parents completed the research measures before receiving the fable, which they knew was forthcoming.

During each child feedback session the involved psychometrist met with the child and parent to share the individualized fable. The fable was introduced to the child as a
story written especially for them based upon what was learned from the testing. Each fable was in a booklet form with illustrative graphics related to the story. The fables incorporated personal information that the child provided and followed a theme that fit with the child’s interests and the assessment findings. Each fable was written conceptually in language readily available for the developmental level of each the particular child. However, if a child had reading challenges, the fable was written not at their reading level (which is most cases would have been way below their comprehension level), but at their cognitive level of understanding. Examples include a young Pokémon trainer learns to attend to each of his Pokémon’s individual needs while still keeping track of his backpack and turning in his homework at the trainer gym; a Giant Panda in the first grade learns about his “Kung Fu energy” and why he often kicks and talks out of turn; a second grade “speed racer” finds out that his brain has trouble understanding some speech sounds, as if the wind is rushing past his ears while racing. The complete text of one of the fables, written for a 7-year-old boy, is included in Appendix A. Following the reading of the fable, typically by the parent, it was given to the child to keep. Each fable session lasted between 15 and 45 minutes. Immediately before or after (depending on group assignment), each child participant completed the CEAS; each participating parent completed the PEAS and the CSQ-8. All research measures were collected on site by the second author.

RESULTS AND DISCUSSION

Multivariate analyses of variance (MANOVAs) were used to evaluate differences between groups for measures completed by the children and, separately, for those completed by the parents. The groups did not differ by child age, gender, or psychometrist. Treatment group (comparison vs. experimental) was the independent variable; statistical significance level was set at $\alpha = .05$. Using the Hotelling’s $T^2$ criterion, the composite dependent variable was significantly affected by treatment group, $F(5, 26) = 4.35, p = .005, \eta_p^2 = .46$. Follow-up univariate between-subjects tests were subsequently conducted on each dependent variable in order to specifically determine the root of the significant global effect. A significant effect was found for the variables Learned New Things, Child-Assessor Relationship, Collaboration, and Parent Understanding. Identical procedures were used to analyze the data from the PEAS. Significant effects were found for the variables Assessor-Child Relationship and Collaboration. Descriptive and significance testing statistics for parent variables are summarized in Tables 1 and 2.

<table>
<thead>
<tr>
<th>CEAS Subscale</th>
<th>Comparison ($n = 17$)</th>
<th>Experimental ($n = 15$)</th>
<th>Significance Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Learned New Things</td>
<td>3.05</td>
<td>0.70</td>
<td>3.77</td>
</tr>
<tr>
<td>Child-Assessor Relationship</td>
<td>3.91</td>
<td>0.50</td>
<td>4.40</td>
</tr>
<tr>
<td>Feelings About Assessment</td>
<td>3.43</td>
<td>0.85</td>
<td>3.77</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3.23</td>
<td>0.61</td>
<td>4.00</td>
</tr>
<tr>
<td>Parent Learning</td>
<td>3.30</td>
<td>0.59</td>
<td>3.99</td>
</tr>
</tbody>
</table>

Note. *Significant at $\alpha = .05$. 
Table 2 Between-Subjects Significance Testing for Parent Dependent Variables.

<table>
<thead>
<tr>
<th>PEAS Subscale</th>
<th>Comparison (n = 17)</th>
<th>Experimental (n = 15)</th>
<th>Significance Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Learned New Things</td>
<td>3.72</td>
<td>0.49</td>
<td>4.01</td>
</tr>
<tr>
<td>Assessor-Child Relationship</td>
<td>3.72</td>
<td>0.55</td>
<td>4.19</td>
</tr>
<tr>
<td>Negative Feelings</td>
<td>1.75</td>
<td>0.43</td>
<td>1.53</td>
</tr>
<tr>
<td>Assessor-Parent Relationship</td>
<td>4.04</td>
<td>0.50</td>
<td>4.29</td>
</tr>
<tr>
<td>Collaboration</td>
<td>3.80</td>
<td>0.38</td>
<td>4.24</td>
</tr>
</tbody>
</table>

Note. * Significant at \(\alpha = .05\).

An independent samples \(t\)-test was conducted to test for an overall treatment satisfaction mean difference on the CSQ-8 between the comparison and experimental groups using an \(\alpha = .05\). Although client satisfaction was high in both groups, overall client satisfaction was found to be significantly higher in the experimental group (\(M = 3.87, SD = 0.14\)) compared to the comparison group (\(M = 3.63, SD = 0.31\)), \(t(30) = -2.78, p = .009, d = 0.89\).

The results indicated that children in the experimental group reported a greater sense of having learned new things about themselves and about their problems and perceived that their parents gained more understanding of their problems. These findings suggest that the intervention met the criteria of meeting the children at their level, to the extent that they were able to absorb new information about themselves, to report an awareness of having done so, and to perceive their parents as doing the same. These findings support previous reports that fables help children incorporate new and complicated information in a nonthreatening way (Mutchnick & Handler, 2002; Tharinger et al., 2007). Parent ratings in the experimental group were not statistically different from those in the comparison group on the variable Learned New Things. A medium effect size raises the possibility that a larger sample size may have been necessary to detect statistically significant differences for this variable.

Both children and parents in the experimental group reported significantly higher levels of a positive relationship between assessor and child. Theoretically related to the construct of therapeutic alliance, this variable has implications for early engagement in therapy, positive therapeutic outcomes, and adherence to recommendations for treatment (Ackerman, Hilsenroth, Baity, & Blagys, 2000; Finn, 2007; Finn & Tonsager, 1997). Noteworthy, both children and parents in the experimental group also reported a greater sense of collaboration in the assessment process. Finally, results from the administration of the CSQ-8 indicated that overall satisfaction with clinic services was found to be high among the entire sample, but that parents in the experimental group were more satisfied with their clinic experience.

These findings are encouraging and provide preliminary evidence that providing children with developmentally appropriate feedback in the form of fables impacts their and their parents’ perceptions of the assessment in positive ways. Further research is needed to more fully investigate this effect, including studying the relationship between cognitive characteristics of the children and their possible impact. It also is important to note several limitations. The design of this study failed to control for the amount of time spent with
the psychometrist prior to collection of the research data. Therefore, the effects found may have been due to the increased attention received by the participants in the experimental group. However, this possibility is lessened by evidence that the beneficial effects experienced by adult clients after feedback are not a function of examiner attention (Finn & Tonsager, 1992; Newman & Greenway, 1997). An additional limitation includes the difficulty of knowing the impact that anticipating but not yet receiving child feedback may have had on the comparison group. It is possible that they are indicating feeling less satisfied due to still waiting to obtain feedback; that is, their experience was not yet complete.

REFERENCES


**APPENDIX A**

Cody Skywalker and his Jedi Destiny

A story written especially for Cameron
A long time ago, in a galaxy far, far away, there was a young Jedi Knight-in-Training named Cody Skywalker. Cody was a very talented Jedi Knight-in-Training. Even though he was only seven years old, Cody had already been given his official Junior Lightsaber License! He also played shortstop on the Jedi Training Academy baseball team, and all of his teachers said he worked very hard in school.

Cody was worried though, because even though he worked very hard, he was having a lot of trouble with his schoolwork. He had been having a hard time reading, so he got to work with a reading helper at the ACodymy. Cody paid attention, and he learned the new ways to read that the helper taught him. But even though he used those new ways, he still felt like he couldn’t catch up.

Sometimes Cody got so worried, he didn’t feel like trying new things in school. It wasn’t like when he played baseball, because in baseball he was always happy to play any position — even though he liked shortstop the best. And it wasn’t like when he went to Virtual Lightsaber Practice, where he used a video game to practice his lightsaber technique. He could play Virtual Lightsaber for hours!

School just wasn’t like that.

One afternoon, after a long and frustrating day at school, Cody went home and curled up on the couch next to his dog Belle. He was planning to tell his mom that he didn’t want to go to school anymore. Cody was ready to give up on Jedi Training Academy, even though he knew that meant he would never be a Jedi Knight. He buried his face in Belle’s fur and tried to forget about the whole thing.
But then a funny thing happened. The more Cody tried to imagine NOT being a Jedi Knight, the more he thought about BEING a Jedi Knight. All of a sudden he could see himself in the future, traveling all over the Empire and defending it from evil forces. And a little voice inside his head said, “You are Cody Skywalker. Being a Jedi Knight is your destiny!”

Cody jumped up and went to find his mom and dad. He told them what he had heard, and also told them how worried he was about school. His mother told him, “Cody, we’re glad you told us, because there is a way we can help you reach your destiny.” And his father said, “Don’t worry, Cody . . . every Jedi Knight-in-Training has to go through challenges before he can become a Jedi Knight!”
So Cody’s mother and father took him to the Jedi Tower of Testing to visit a real Jedi Master. They had heard that Jedi Masters helped young Jedi Knights-in-Training (and their parents) learn how their brains work the best, and the best ways to teach their brains new things. After all, young Jedi Knights-in-Training have A LOT of new things to learn before they get to go on their first Jedi mission.

In the Jedi Tower of Testing, Cody visited different pods, and in each pod there was a different test. There were so many different tests! In some of them, a Jedi Master asked Cody to draw or copy something. In others, he had to tell the Jedi Master what different words meant. At the end of the day, Cody was very tired. But he knew it was worth it, because the Jedi Master was going to tell him how his brain works the best.

A few days later, Cody and his parents went back to the Tower of Testing so that the Jedi Master could tell them what they had found out. The Jedi Master said there was some very good news. Just like everybody already knew, Cody was smart, and he could do schoolwork just as well as other kids his age. He was especially good at making sense out of the things he saw through his eyes and heard through his ears. Cody was happy to hear that, because Jedi Knights have to see all kinds of new things in space, and they have to understand lots of alien languages!
The Jedi Master also said that she could see how hard Cody was working at using the new ways of reading his reading helper taught him. Those new ways were helping Cody read, and the tests showed that Cody understood what he was reading.

But it was still hard for him to sound out new words, and it was difficult for him to read quickly.

The Jedi Master explained that this wasn’t Cody’s fault. He was working hard at reading. It just happened that his brain was made so that reading was harder for him to do than other things. The Jedi Master also explained that because there is so much reading in school, Cody might feel like he was having a very hard time with his schoolwork.

She said that there were lots of fun ways Cody could practice reading so that it would get easier. For example, Cody could read aloud with his parents, and he could “tell back” to his parents what he had just read. For some harder books, Cody could get them on a recording so he could hear the words read to him. Plus, the Jedi Master gave Cody’s parents lots of other ideas they could use.
The Jedi Master also said Cody sometimes had a tough time paying attention. When his teacher asked him to change from doing one activity to another, he got confused and didn’t know what he was supposed to do next. Also, Cody sometimes missed little things like writing all the letters in a word. The Jedi Master said this happened to lots of kids, and there were things Cody’s teachers and parents could do to help him pay attention better.

One thing they could do is make sure that they looked Cody in the eyes when they talked to him, so he would know it was time to pay attention. Another thing they could do is give Cody explanations when it was time to switch to doing something new. But most importantly, the Jedi Master told Cody that he should always ask questions when he forgets something. All Jedi Knights-in-Training need help sometimes, and the best thing to do is go to your teachers and parents and ask for what you need!

Cody Skywalker was happy to hear that the Jedi Master had so many suggestions and understood so much about how his very special brain worked. Now he knew for sure that he could reach his destiny as a Jedi Knight with a little help from his parents and the Jedi Training Academy.

Before he left the Jedi Tower of Testing, the Jedi Master said there was one last, important thing she had to tell Cody. She said that all of the Jedi Masters had truly enjoyed
meeting Cody, and every one of them noticed how hard he worked and how many different things he was good at. And then she said. . .

“Cody Skywalker, you are a young Jedi of many gifts. Believe in yourself. . .

. . .and may the Force be with you!”