Validity of the Coaching Practices Rating Scale

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ABSTRACT

The construct validity of a tool used to determine the extent to which a practitioner uses the characteristics of coaching as part of his or her work with a family or in supporting another colleague was assessed in a pilot study involving nineteen practitioners from five different disciplines. Results indicated that the tool was valid for the intended purposes. Implications for use are described.

INTRODUCTION

The purpose of this *CASEinPoint* is to describe the process used to conduct preliminary analyses of the construct validity of the *Coaching Practices Rating Scale*. The *Coaching Practices Rating Scale* is a 14-item instrument used to determine the extent to which a practitioner is adhering to and using coaching practices with either families or colleagues to strengthen their competence and confidence in using evidence-based early childhood intervention practices.

Coaching is an adult learning strategy that is used to build the capacity of a parent, caregiver, or colleague to improve existing abilities, develop new skills, and gain a deeper understanding of his or her practices for use in current and future situations (Hanft, Rush, & Shelden, 2004; Rush, Shelden, & Hanft, 2003). In the context of early childhood intervention, coaching is conceptualized as a particular type of helpgiving practice within a capacity building model to support people in using existing abilities and developing new skills to attain desired child and family outcomes (Dunst & Trivette, 1996; Dunst, Trivette, & LaPointe, 1992; Rappaport, 1981; Trivette & Dunst, 1998).

The coaching model for supporting families and colleagues as part of early childhood intervention described by Hanft, Rush, and Shelden (2004) and Rush, Shelden, and Hanft (2003) was used along with the characteristics identified from the coaching research synthesis (Rush, 2003) to develop the *Coaching Practices Rating Scale*. The items for the *Coaching Practices Rating Scale* were also developed based on the findings of a recent research synthesis on how people learn (Bransford et al., 2000; Donovan, Bransford, & Pellegrino, 1999). A pool of items was developed by a group of practitioners at the Family, Infant and Preschool Program that was examining how coaching could be used to support parents and practitioners in the use of natural learning en-

vironment practices. The group examined each item for consistency with the evidence, to eliminate redundancy, and to ensure that items covered all five of the characteristics of coaching practices, as well as appropriate indicators for how people learn. The field tested version of the *Coaching Practices Rating Scale* was then reviewed by two individuals familiar with the coaching literature who provided feedback regarding the clarity of items. This information was used by the task force to make changes to individual items on the scale.

Previous research has shown that coaching is associated with a number of positive benefits, including building collaborative relationships, solving specific problems, learning new skills, and refining existing skills (Hendrickson, Gardner, Kaiser, & Riley, 1993; Huntington, Anderson, & Vail, 1994; Kohler, Crilley, & Shearer, 1997; Kohler, McCullough, & Buchan, 1995; Miller, 1994; Miller, Harris, & Watanabe, 1991; Morgan, Gustafson, Hudson, & Salzberg, 1992; Munro & Elliott, 1987; Phillips & Glickman, 1991; Showers, 1985). The construct of coaching, however, has neither been well defined nor has there been any previous attempt to identify the individual indicators of the practice. As used here, coaching is defined as:

> *An adult learning strategy in which the coach promotes the learner's ability to reflect on his or her actions as a means to determine the effectiveness of an action or practice and develop a plan for refinement and use of the action in immediate and future situations*
> (Rush & Shelden, 2005).

The *Coaching Practices Rating Scale* is used in a number of ways. First, a practitioner can use the scale for self-reflection or joint discussion to assess how his or her coaching practices are consistent with evidence-based coaching practice indicators. Second, the scale may be used by supervisors or peers, based on an observation of a practitioner's coaching interaction(s), to assist the practitioner in reflecting on his or her coaching practices. Third, a supervisor or peer can use the scale to provide feedback related to the observation and the practitioner's own reflections related to the interaction, as well as, to assist the practitioner in developing a plan for changes to make his or her practices more consistent with the characteristics of coaching. The reader is referred to Rush and Shelden (2006) for further description of the *Coaching Practices Rating Scale*.

METHOD

Participants

The participants were nineteen practitioners from five different disciplines working in an early childhood development and family support program. The disciplines included nursing, occupational therapy, physical therapy, speech-language pathology, and early childhood education. Participants included eighteen females and one male. At the time of the study, participants had been employed by the program from 5 months to 16 years (Mean = 7 years).

Implementation

Practitioners were introduced to the practice of coaching and the coaching indicators, either through participation in a workshop for existing staff or the program's orientation process for new employees. In addition, each practitioner discussed his or her coaching practices with a mentor coach during one-hour conversations scheduled every other week. All practitioners were introduced to the *Coaching Practices Rating Scale* during staff training. They were informed that the scale was a tool for assessing their use of and adherence to coaching practices. For each item, the person was asked to indicate how often the practice was used according to the following scale: 0 = No opportunity to measure or use the practice, 1 = Use of the practice none of the time, 2 = Use of the practice some of the time, 3 = Use of the practice about half of the time, 4 = Use of the practice most of the time, 5 = Use of the practice all of the time. A rating of zero (0) indicates that the rater was unable to observe the behavior described or no opportunity occurred in a coaching session(s) to rate the item, whereas a rating of one (1) indicates that an opportunity for use of the behavior occurred, but was not used by the practitioner. Each participant was asked to complete the tool as a monthly self-assessment for seven months.

Source of Data

One hundred sixteen (116) scales completed by the study participants over a seven-month period of time were the source of data for the validity analysis described next. Participants completed the scales based on their experiences with a family where the ratings were made based on their experiences alone. The Appendix lists abbreviated versions of the 14 coaching practice rating scale items included in all analyses.

Data Analysis

A multi-step scale evaluation process was conducted (DeVellis, 1991; Dixon, 1988). First, the descriptive statistics were computed to examine the extent to which the means and standard deviations for individual items were similar. Second, the correlations between individual items and the total score (sum of all 14 items), as well as, the squared multiple correlation of each item with all other items were computed to determine which items should be part of further analysis. Third, the effects of removal of individual items on Cronbach's alpha were examined to assess whether any items should be removed from further analyses. Fourth, exploratory factor analysis using principal component analysis with varimax rotation to discern scale structure was conducted. Fifth, a second order factor analysis was conducted to determine whether a decision to compute a summated

score was justified. Sixth, Cronbach's alpha was computed to determine the internal consistency of the scale. Seventh, alphas for the separate factors were examined to assess the internal consistency of subscale scores for the three factor solution obtained.

RESULTS

Table 1 displays the means and standard deviations for the 14 scale items. The majority of items (88%) had score means in the 3.50 to 4.50 range with standard deviations for all items were between 0.69 and 1.10. All items had scores that ranged between 0 and 5.

Table 1 also includes the squared multiple correlations (R^2) of each item with all others removed and the coefficient alphas with each item removed from the summated score. All items had squared multiple correlations higher than .60. As can be seen in Table 1, the internal consistency estimates were not affected by the removal of items. For this reason, all items were retained for further analysis.

Table 1

Means, Standard Deviations, Multiple Correlations (R^2), of Each Item with All Other Items, and the Coefficient Alphas with Each Item Removed from the Item Pool.

	Descriptive Statistics		Item Properties	
Scale Item	Mean	SD	R^2	Alpha
Acknowledge ability	4.28	0.74	.72	.96
Nonjudgmental interactions	4.55	0.69	.62	.96
Plan coaching	3.75	0.93	.68	.96
Plan action	4.16	0.97	.74	.96
Observe knowledge	3.72	1.08	.81	.96
Observe skills	3.57	1.02	.89	.96
Observe coach	3.51	1.10	.82	.96
Multiple practices	3.37	1.05	.72	.96
Learner practice	3.99	0.89	.75	.96
Probe questions	3.95	0.90	.76	.96
Comparative questions	3.56	1.01	.82	.96
Provide feedback	3.86	0.96	.79	.96
Provide information	3.75	1.03	.82	.95
Evaluate coaching	3.44	1.10	.84	.96

Validity

Construct Validity. A principal components factor analysis with varimax rotation resulted in a three factor solution. Table 2 shows the results of the factor analy-

Table 2

Varimax Factor Analysis Loadings of the Coaching Practices Rating Scale

Factor	Scale Items	Factor Loading
Coaching	Comparative questions	.84
	Provide feedback	.84
	Probe questions	.82
	Evaluate coaching	.79
	Provide information	.78
	Plan coaching	.72
	Plan action	.70
	Multiple practices	.66
Observation and Practice	Observe skills	.89
	Observe coach	.88
	Observe knowledge	.80
	Learner practice	.56
	Multiple practices	.54
Adult Learning	Nonjudgmental interactions	.91
	Acknowledge ability	.76

sis. The rotated factor analysis produced a three factor solution, which together accounted for 82% of the variance, with 39% accounted for by the first factor, 26% by the second factor, and 16% by the third factor. The first factor, coaching, includes the key characteristics that should be present in every coaching interaction, which emphasize active involvement of the learner in the coaching process. The second factor, observation, includes items of a more passive nature in which the coach and/or learner observes the others' practices. The third factor, adult learning, includes items related to the coach's positive attributions regarding the learner's current knowledge and promotional interaction style of the coach.

Second-Order Factor Analysis. The second-order factor analysis of the scale responses produced a single factor accounting for 66% of the variance. The factor loadings were .87, .82, and .73 for the three factor scores. This finding indicates that a total scale score computed from the sum of ratings of all items can be used as a reasonable measure of adherence to coaching practices.

Reliability

Internal Consistency. The mean item-to-total scale score correlation was .77 (range .62 to .88). Coefficient alpha was .96 and the split-half reliability coefficient using the Spearman-Brown formula was .92, indicating a high degree of internal consistency. The alphas for the first, second, and third rotated factors were .96, .92, and .84, respectively.

DISCUSSION

The *Coaching Practices Rating Scale* is a tool used to determine the extent to which a practitioner is using, and adhering to, coaching practices with either families or colleagues to promote their competence and confidence in use of effective early childhood practices. The findings from the analyses reported in this *CASEinPoint* provide preliminary evidence that the *Coaching Practices Rating Scale* is valid for the intended purpose.

Further analyses of the *Coaching Practices Rating Scale* with a larger sample of practitioners are planned to further substantiate the validity and reliability of the scale. Further analyses will include a more systematic assessment of test/retest reliability, as well as split-half reliability, and other measures of the internal consistency of the scale items. The next step of validity determination will be to assess the criterion validity of the instrument by examining the extent to which the scale correlates with other measures of adult learning (e.g., Self-Directed Learning Readiness Scale). Additional analysis will also relate the variations in adherence to coaching to variations in practitioners' behaviors that are indicative of the kind of practice the scale is intended to promote. Future reliability and validity analyses could provide additional evidence of the psychometric properties of the scale.

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Appendix

Abbreviated Descriptions of the Coaching Practice Rating Scale Items

Coaching Practices Rating Scale Items	Item Descriptors
1. Acknowledge the learner's existing knowledge and abilities as the foundation for improving knowledge and skills.	Acknowledge ability
2. Interacting with the learner in a nonjudgmental and constructive manner during coaching conversations.	Nonjudgmental interactions
3. Identifying with the learner the target skills and a timeline for the coaching process.	Plan coaching
4. Developing with the learner a plan for action/practice necessary to achieve targeted skill(s) following each coaching conversation.	Plan action
5. Observing the learner demonstrate knowledge and understanding of the targeted skill(s) or practice(s).	Observe knowledge
6. Observing the learner's use of the targeted skills(s) or practice(s).	Observe skills
7. Creating opportunities for the learner to observe the coach and/or others model the target skill(s) or practice(s).	Observe coach
8. Promoting use of multiple opportunities for the learner to practice implementation of the targeted skill(s) and practice(s).	Multiple practices
9. Using both planned and spontaneous opportunities to strengthen the learner's knowledge and skills.	Learner practices
10. Asking probing questions to examine the learner's knowledge and abilities.	Probe questions
11. Prompting learner reflection on his/her knowledge and use of the targeted skill(s) and practice(s) compared against research-based practice standards.	Comparative questions
12. Providing feedback about the learner's knowledge and skills following the learner's reflection on his/her performance.	Provide feedback
13. Providing or promoting access to new information and resources after the learner reflects on his/her performance.	Provide information
14. Engaging the learner in reflection on the usefulness, effectiveness, and need for continuation of coaching.	Evaluate coaching