

## Abstract

Even though there are multiple factors that may explain whether an intervention will be used, the majority of scholarship on social validity assessments has emphasized *acceptability*. Recent studies suggest that a complex interplay among a number of different factors beyond acceptability predicts the likely adoption of an intervention. The current study expands, strengthens and explores the validity of the Usage Rating Profile-Intervention (URP-I), a recently developed measure to capture these myriad factors. Elementary teachers (n=1,005) completed this measure in response to behavior intervention vignettes. Findings from EFA and CFA as well as reliability analyses support a six factor measure that captures individual, intervention and environmental influences.

## Introduction

- In the past decade increased attention has been focused on the need to identify programs and practices proven effective in promoting the academic and behavioral success of students in schools (i.e., the WWC & EBPP). Yet, scant research has been conducted to better understand the likely incorporation of these interventions into routine practices.
- The factor that has received the greatest attention for predicting intervention adoption is, acceptability. However, more recent research within the field of school psychology, medicine and social services have documented a) the absence of empirical models that support acceptability as the primary factor and b) the presence of additional influences on treatment usage.
- A potentially more explanatory factor warranting primary consideration in the development of tools designed to promote adoption and implementation, is intervention usage.
- The Usage Rating Profile-Intervention (URP-I; Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009) was developed in order to assess four factors believed to influence actual intervention usage: acceptability, understanding, feasibility, and systems support.
- Necessary is a more rigorous replication study of the factor structure and composition of this new scale of intervention usage to better understand the contribution of additional factors that influence intervention usage.

## Methods

### Teacher Demographic Information

Category	Subcategory	EFA Sample (N = 503)		CFA Sample (N = 502)	
		N	%	N	%
Gender	Female	468	93	458	91
	Male	35	7	44	9
Ethnicity	White	407	81	416	83
	African-American/Black	49	10	46	9
	Hispanic/Latino	24	5	19	4
	Asian	7	1	6	1
Grade	Other/Unknown	18	3	15	3
	K-2	233	47	228	45
	3-4	146	29	154	31
	5-6	124	25	120	24
School Type	Private	64	13	56	11
	Public	434	86	442	88
	Other	5	1	4	1
	Setting	Urban	147	29	139
Suburban		195	39	180	36
Rural		155	31	178	36
Other		6	1	5	1

### Content Validation, URP-I Revised (URP-IR)

In total, 75 items were included in the content validation phase; 15 items per hypothesized factor. Item generation incorporated both consultative (e.g., professional development) and philosophical (e.g., contextual fit) support items.

Eight researchers in special education and school psychology who had published in the areas of treatment acceptability or integrity were contacted via email and agreed to serve as content validation experts using a content validation form (Gable & Wolf, 1993). A total of 60 items were retained subsequent to the content validation process. All items were rated using a 6 point scale with anchors that ranged from Strongly Disagree to Strongly Agree.

### Data Collection Procedures

All participating elementary school teachers completed a brief demographic survey as well as the URP-IR through a survey procurement company. The URP-IR, a 60-item measure, was completed following review of a school-based intervention vignette. Each participant was randomly assigned to a single intervention vignette upon which to base his/her responses. All survey collection data was conducted via phone, with respondents taking approximately 15-20 total minutes to complete the survey. Returned data was provided from the survey procurement company within a master database.

# Exploring Multiple Influences on Intervention Use: Revision of the Usage Rating Profile-Intervention

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## Data Analysis

The resulting database was randomly split in half to produce separate samples for exploratory and confirmatory factor analysis procedures (Pett, Lackey, & Sullivan, 2003; Thompson, 2004). The five vignettes were equally distributed across the EFA sample  $\chi^2 = 1.88$  ( $p = .76$ ) and the CFA sample  $\chi^2 = 1.76$  ( $p = .78$ ). Data were analyzed with regard to the hypothesized factor structure and internal consistency, using both exploratory and confirmatory factor analysis procedures (Pett, Lackey, & Sullivan, 2003).

Descriptive and exploratory factor analyses were performed with PASW Statistics 19 (SPSS) using principal axis factoring with an oblique rotation. Confirmatory factor analyses were subsequently employed using WLSMV estimation techniques with MPLUS 6.11 for both the model determined by the exploratory factor analysis and a single-factor model (supported by the acceptability literature). Reliability estimates using Cronbach's alpha for both the EFA and CFA samples were explored.

## Exploratory Factor Analysis Results

The correlation matrix was examined to identify any high inter-item correlations (i.e.,  $r > .80$ ) (Netemeyer, Beardon & Sharma, 2003) as well as items with low communalities ( $r \geq .30$ ) (Pett et al., 2003). Of the original items, 12 items (12, 28, 32, 33, 35, 43, 44, 49, 52, 53, 56, 57) demonstrated multicollinearity (i.e., high inter-item correlations with at least three other items in the scale) and were therefore deleted.

Table 1: Exploratory Factor Analysis Measures of Sampling Adequacy

Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity	MSA item range
.96	$p < .001$	All items $> .60$

Table 2: Number of Factors Suggested by Each Criterion

Criterion	Number of Factors
	Suggested
Scree plot	8
Eigenvalues greater than 1	8
Parallel Analysis	8

### Patten Matrix

The pattern coefficient matrix was examined in order to assess the dimensionality of the items. Items that demonstrated a pattern coefficient below .45 on their primary factor were deleted from the final scale (e.g., 3, 5, 8, 10, 15, 25, 31, 34, 37, 41, 42, 46,48). Item 18 was also removed from the scale because it exhibited multidimensionality, loading on two factors. The deleted items loaded solely onto the 7<sup>th</sup> and 8<sup>th</sup> factors, leaving **only six factors** after item deletion.

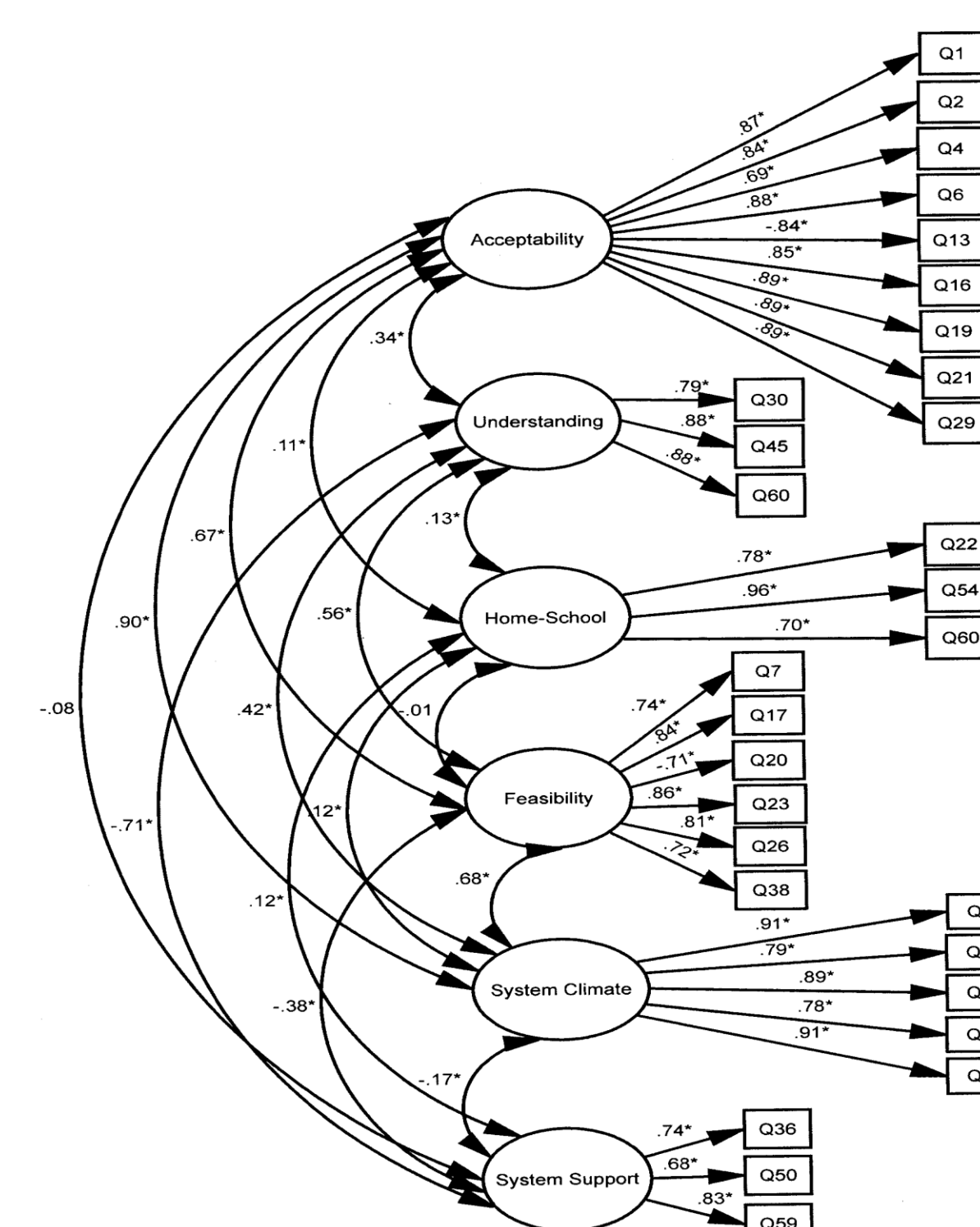


Fig. 1. Confirmatory factor analysis structure and loadings for the final model

## Confirmatory Factor Analysis Results

Table 3: CFA Fit Indices and  $\chi^2$  Statistics Comparing The Single and Six Factor Models

Factor Model	$\chi^2$	CFI	SRMR	RMSEA	Decision
1 Factor Model	$\chi^2 (62) = 2456.40, \chi^2 / df = 39.62$	.71	.14	.14	Poor Fit
6 Factor Model	$\chi^2 (74) = 383.63, \chi^2 / df = 5.18$	.96	.05	.09	Acceptable Fit

### Reliability Analyses

Table 4: Summary of Reliability Statistics for Subscales in the URP-IR

Subscale	Items	Average inter item r	SD of interitem r	$\alpha$
Acceptability	1,2, 4, 6, 13,16,19, 21, 29	.68	.08	.95
Understanding	30, 45, 58	.59	.04	.80
Home-School	22, 54,60	.56	.06	.79
Feasibility	7, 17, 20, 23, 26,38	.47	.11	.84
System Climate	14,27, 39,47, 55	.68	.06	.91
System Support	36,50,59	.47	.05	.72

## Discussion

- Results of the current study suggest that as many as six distinct factors may need to be considered when attempting to predict and understand intervention usage in school-based settings.
- Consistent with conceptual models of treatment integrity and implementation posited across human service fields, the URP-IR involves consideration of potential facilitators and barriers to usage that extend across three levels of influence—those of the individual (e.g., Acceptability, Understanding), the intervention (Feasibility), and the environment (e.g., Home-School Collaborations, System Climate & System Support)
- Thus, Information gleaned from the URP-IR may be beneficial in both the planning and evaluation of intervention efforts across both individual and group contexts.
- The URP-IR measure may be used to facilitate individualized consultation, by helping consultants to efficiently gather initial data regarding consultees' perceptions of an intervention.
- The URP-IR can be administered to large numbers of participants simultaneously and the resultant data analyzed in order to identify areas of shared concern or difficulty. This information can then be used to make macro-level modifications to an intervention structure or procedures either at the stage of program planning or evaluation..

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