Examining Changes in Usability Ratings Of Evidence Based Assessments Over Time

Faith G. Miller[1], Daniel Cohen[2], Sandra M. Chafouleas[1], Amy M. Briesch[3], Sabina Rak Neugebauer[1], & T. Chris Riley-Tillman[2]

University of Connecticut[1], University of Missouri[2], Northeastern University[3]

Introduction

Background

Historically, research related to the adoption of a particular practice focused on the construct of *acceptability* (e.g., Kazdin, 1980; Martens, Witt, Elliott, & Darveaux, 1985; Witt & Martens, 1983). However, the limited number of studies that have specifically investigated the relation between treatment acceptability and usage in more recent years have found weak results (e.g., Sterling-Turner and Watson, 2002). These findings suggest that additional factors beyond acceptability should be considered when attempting to predict and explain innovation usage.

In an effort to better understand multiple factors that influence innovation usage, the Usage Rating Profile (URP) was developed. There are two versions of the URP; the URP-Intervention and URP-Assessment, which were designed to assess factors thought to influence usage of interventions and assessments in schools, respectively. Research to date has supported a six-factor model across both versions of the URP: Acceptability, Understanding, Home-School Collaboration, Feasibility, System Support, and System Climate.

Objective

While the URP has been used to determine dimensions of usability that may influence implementation, no research to date has examined how usage ratings may change over time. The goal of the current study was to expand upon the current literature base by examining changes in URP-A usage ratings across time after extended use of behavioral screening assessments. Specifically, we examined the following research question: On average, do total usability scores for behavioral screening measures change over time?

Method

This study was conducted as a part of a larger federally-funded project designed to provide unified validation of school-based behavior assessments for screening and progress monitoring purposes.

Participants and Setting

- The analytic sample consisted of 50 public school teachers of grades 1, 2, 4, 5, 7, and 8.
- Participating teachers were employed by 17 different schools, including rural, suburban, and urban districts.
- Public school settings were geographically located Connecticut, New York, and Missouri.

Table 1: *Teacher Demographic Characteristics*

Characteristic	*n*	%
Gender		
Male	6	12
Female	44	88
Ethnicity		
Caucasian	46	92
African American	1	2
Other	3	6
Grade Taught		
First	3	6
Second	11	22
Fourth	10	20
Fifth	11	22
Seventh	4	8
Eighth	10	20
Multi-grade	1	2

Method

Measures

- *Usage Rating Profile- Assessment (URP-A; Chafouleas, Briesch, Neugebauer Riley-Tillman, & McCoach, 2011).*
  - The URP-A is a self-report measure for collecting information about the factors influencing use of an assessment methodology. The measure consists of 29 items to which participants respond regarding their level of agreement using a 6-point Likert scale. Total usability and factor scores were calculated using unweighted sum scores. Participants completed the URP-A in response to the following measures:
- *Direct Behavior Rating – Single Item Scale* (DBR-SIS)
  - DBR-SIS reflects the teacher's perception of the proportion of time a student is observed engaged in a target behavior (academic engagement, respectful, disruptive) from 0 (never) to 10 (always). Students were rated twice daily for five days.
- *Social Skills Improvement System - Performance Screening Guide* (SSiS; Gresham & Elliott, 1990)
  - The SSIS Performance Screening Guide can be used to screen social and academic behaviors of all students in a class. This measure is comprised of four scales: Math Skills, Reading Skills, Motivation to Learn, and Prosocial Behavior.
- *Behavioral and Emotional Screening System* (BESS; Kamphaus & Reynolds, 2007)
  - The BESS is a brief rating scale that can be useful in screening for behavioral and emotional strengths and weaknesses in children and adolescents.

Procedures

- Participants completed the URP-A following two-week data collection periods in the fall, winter, and spring of the 2011-12 school year. During each screening period, each teacher rated approximately 10 students per classroom.

Results

Data Screening

- The assumption of normality for the total usability scores was tested through the evaluation of skewness and kurtosis statistics, as well as Kolmogorov-Smirnov and Shapiro-Wilk tests of normality. All data indicated that the assumption of normality was met.
- Mauchly's test indicated that the assumption of sphericity had been violated for the variable "Measure" and the interaction term, therefore degrees of freedom were corrected using Greenhouse Geisser estimates of sphericity.

Data Analysis

- A two-way repeated measures ANOVA indicated that there was no main effect for assessment type, $F(2, 98) = 1.41$, $p = .25$, or time period of survey administration, $F(1.08, 52.86) = .278$, $p = .62$, on total usability scores. In addition, the interaction of assessment type and time period of survey administration was non-significant, $F(2.65, 129.65) = .57$, $p = .62$.

Results

Figure 1: *Total Usability Scores by Time Point and Measure*

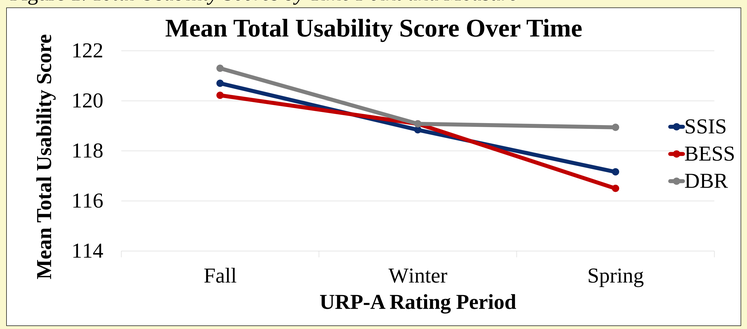
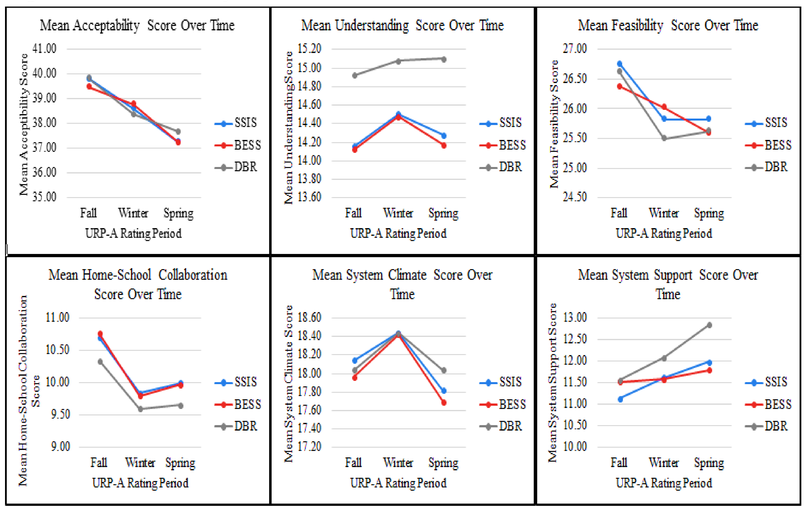


Figure 2: *Factor Scores by Time Point and Measure*



Summary and Conclusions

- No statistically significant differences were found for total usability scores across measures or across time.
  - General trends indicate slight declines in total usability ratings over time.
- Descriptive analyses suggest that trends may differ across factor scores.
  - A larger sample is needed to investigate whether there are statistical differences in factor scores over time.
- Further research should examine differences in weighted factor and total usability scores over time.

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