

**Evaluation of the Seidel School Dispositional Expectations Policy (SSDEP) Assessment Survey: Student Version**

**Section I. Introduction**

The following report briefly summarizes results from the psychometric evaluation of the School Dispositional Expectations Policy (SSDEP) Assessment Survey: Student Version. The results summarized here are based on the pilot testing of the revised dispositions survey (Version 2). Students/candidates (*N*=203, after data cleaning) completed the dispositions survey across the fall, 2018, winter, 2019, and spring, 2019 semesters. Notes outlining in more detail specific statistical procedures and analyses are appended to this document.

**Section II. Analysis of the Factor Structure of the SSDEP Survey: Student Version**

To examine the factor structure of the SSDEP Survey: Student Version and evaluate the alignment of existing survey responses with the proposed structure of the instrument, confirmatory factor analysis (CFA) was conducted in Mplus (Version 8; Muthén & Muthén, 2010; 2012). To adequately analyze the item-level, Likert scale data, robust weighted least squares (WLSMV) estimation was used in Mplus. WLSMV estimation effectively estimates latent factors underlying Likert scale, item-level data and is based on the use of probit regressions. Recent work has supported the use of WLSMV with categorical and continuous non-normal variables (Flora & Curran, 2004; Li, 2014). Following previous recommendations for latent variable models (Hu & Bentler, 1999) and, in particular, WLSMV-based latent factor models (Yu & Muthén, 2002), model fit was assessed using the following indices and criteria: the root mean square error of approximation (RMSEA; value ≤ 0.06); the comparative fit index (CFI; value ≥ 0.95); the Tucker Lewis index (TLI; value ≥ 0.95); and the weighted root mean square residual (WRMR; value ≤ 1.00).

A five factor solution was specified and tested, consistent with the proposed structure of the instrument, based on the following factor-item breakdown: Factor 1: Commitment to the Ideals of the Teaching Profession (items 1-5); Factor 2: Commitment to Professional Ethical Standards (items 6-10); Factor 3: Commitment to Professional Knowledge (items 11-15); Factor 4: Commitment to the School Community (items 16-20); and Factor 5: Commitment to Professional Colleagues, Faculty, and Fellow Students (items 21-25). Non-standard procedures, including user-specified starting values and an increasing of the number of iterations for the WLSMV-estimated model, were not employed. Model fit was adequate, *χ*2(265)=423.01, *p* < .05, *χ*2/*df*=1.60, CFI=0.97, TLI=0.96, RMSEA=0.05, 90% RMSEA CI [0.04, 0.06], WRMR=0.89. All standardized item loadings exceeded 0.60 (see Figure 1), suggesting that responses on the 25 items aligned well with the proposed structure of the instrument. Composite scores were then calculated by taking the mean across each item set representing each broad commitment area (where plausible values could range from 1.00, ‘Unacceptable’, to 4.00, ‘Exemplary’, after recoding for the ‘Not applicable’ response option).

Figure 1. Statistical Model Depicting Abbreviated Results of the Confirmatory Factory Analysis



*Note*. Values extending from individual items reflect standardized item loadings. Com 1=Commitment to the Ideals of the Teaching Profession (items 1-5); Com 2=Commitment to Professional Ethical Standards (items 6-10); Com 3=Commitment to Professional Knowledge (items 11-15); Com 4=Commitment to the School Community (items 16-20); and Com 5=Commitment to Professional Colleagues, Faculty, and Fellow Students (items 21-25).

**Section III. Reliability Evidence of the SSDEP Survey: Student Version**

To evaluate reliability evidence for the items used in the alumni survey, internal consistency reliability was examined. Internal consistency reliability is commonly used to evaluate the reliability of a set of test or questionnaire items. Internal consistency reliability provides an indication of an instrument’s reliability by estimating the extent to which items on an instrument consistently measure the same construct (e.g., intern performance).1 Reliability for scores on the SSDEP Survey: Student Version items overall was strong (α=0.95). Category-level reliabilities are presented in Table 1.

*Table 1*. Reliability Evidence for Specific Categories/Scales of the SSDEP Survey: Student Version

|  |  |
| --- | --- |
| Survey: Student Version: Dispositions Category/Scale | α |
| Commitment to the Ideals of the Teaching Profession | 0.78 |
| Commitment to Professional Ethical Standards | 0.84 |
| Commitment to Professional Knowledge | 0.76 |
| Commitment to the School Community | 0.80 |
| Commitment to Professional Colleagues, Faculty, and Fellow Students | 0.83 |

Reliability for scores on the specific categories/scales was adequate (i.e., all αs > 0.70).

**Section IV. Examination of Composite Scores and Composite Correlations**

In the following table (Table 2), category/scale-level descriptive information is presented. In general, candidates’ reported scores on each of the five commitment areas were above the mid-point of the scale (2.00) and approached the higher end of the scale range (4.00).

*Table 2*. SSDEP Survey: Student Version – Category/Scale Descriptive Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SSDEP Survey: Dispositions Commitment | Mean | Median | *SD* | Min-Max |
| Ideals of the Teaching Profession | 3.56 | 3.60 | 0.42 | 2.40-4.00 |
| Professional Ethical Standards | 3.68 | 3.80 | 0.41 | 2.20-4.00 |
| Professional Knowledge | 3.65 | 3.80 | 0.39 | 2.40-4.00 |
| School Community | 3.60 | 3.80 | 0.42 | 2.20-4.00 |
| Colleagues, Faculty, and Fellow Students | 3.50 | 3.60 | 0.49 | 2.00-4.00 |

To explore the relations among candidates’ evaluations of their dispositions, Pearson correlation coefficients were computed among composite scores based on each of the five broad commitment areas (see Table 3).

*Table 3*. Correlations Among Scores on the SSDEP Survey: Student Version Categories/Scales

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSDEP Survey: Dispositions Commitment  | 1 | 2 | 3 | 4 | 5 |
| 1. Ideals of the Teaching Profession | - |  |  |  |  |
| 2. Professional Ethical Standards | .75\*\* | - |  |  |  |
| 3. Professional Knowledge | .59\*\* | .64\*\* | - |  |  |
| 4. School Community | .65\*\* | .72\*\* | .68\*\* | - |  |
| 5. Professional Colleagues, Faculty, and Fellow Students | .59\*\* | .68\*\* | .61\*\* | .75\*\* | - |

These correlations provide convergent evidence based on expected relationships among dimensions of candidates’ dispositional characteristics (i.e., validity evidence based on relations to other variables; see *Standards for Educational and Psychological Testing*, AERA, APA, NCME, 2014, p. 16). Overall, obtained correlations were positive and were moderate to strong in magnitude indicating, as expected, a strong pattern of relationships among candidates’ evaluations of their dispositions and dispositional characteristics.2

**Section V. Summary of Psychometric Evidence for the SSDEP Survey: Student Version**

Overall, this brief report provides promising support for the psychometric properties and performance of the SSDEP Survey: Student Version. Confirmatory factor analytic evidence supported the proposed structure of the survey instrument, with all respective items/item sets loading cleanly and strongly onto each of the five categories: Commitment to the Ideals of the Teaching Profession (items 1-5); Commitment to Professional Ethical Standards (items 6-10); Commitment to Professional Knowledge (items 11-15); Commitment to the School Community (items 16-20); and Commitment to Professional Colleagues, Faculty, and Fellow Students (items 21-25). Further, scores on the instrument demonstrated adequate reliability, based on internal consistency reliability evidence, both at the category/scale and overall instrument levels.

Descriptively, scores fell at the higher end of the score scale for each dispositions commitment area, indicating perhaps unsurprisingly that students/candidates provided strong ratings of their own dispositions. Importantly, however, scores across the five dispositional commitment areas were positively and moderately (if not strongly) correlated. This, in combination with the results of the confirmatory factor analysis, provides critical validity evidences based on both internal structure and relations to other variables (see *Standards for Educational and Psychological Testing*, AERA, APA, NCME, 2014).

Based in part on the findings of this analysis, the following next steps are supported to further evaluate and support the use of the SSDEP Survey: Student Version:

1. Reanalysis of data from the SSDEP Survey: Student Version, based on the broad statistical procedures outlined above, is needed in subsequent semesters.

2. Agreement and evaluation of convergence between students’/candidates’ ratings of their own dispositions and select faculty ratings of those students’/candidates’’ dispositions is needed. Evidence of such agreement will provide key inter-rater reliability information that will serve to further support the use and analysis of data based on the SSDEP Survey: Student Version.

3. Unit-wide implementation of the SSDEP Survey: Student Version should be brought to scale to ensure data based on the SSDEP Survey: Student Version are being used effectively to support program entry, retention, and completion decisions as well as continuous improvement efforts that span curricular and applied settings and contexts.

**References**

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Yu, C. Y., & Muthén, B. O. (2002). Evaluation of model fit indices for latent variable models with categorical and continuous outcomes. Los Angeles: University of California, Los Angeles, Graduate School of Education and Information Studies.

**Notes**

1Internal consistency reliability was evaluated through calculation of Cronbach’s alpha as a lower-bound estimate of reliability. Cronbach’s alpha effectively evaluates the mean of all possible split-half correlations among items in an instrument. Standardized item alpha values were also computed and compared with Cronbach’s alpha values.

2Given the nature of the data analyzed, both Pearson correlation coefficients and Spearman rank-order correlation coefficients were computed and compared. Findings with respect to the significance and magnitude of obtained correlations were similar across correlation type.