Field Evaluation Instruments Designed to Measure Social Work Competencies: A Psychometric Analysis

Todd Jensen, PhD, MSW
Research Associate / Research Assistant Professor

Rebecca Brigham, MSW
Clinical Associate Professor / Assistant Dean of Field Education

School of Social Work
University of North Carolina at Chapel Hill
Acknowledgements

• Larry Rosenfeld
  – Applications Analyst, School of Social Work, University of North Carolina at Chapel Hill
Background and Context

• Adoption of a competency-based model in social work education
• Students expected to cultivate a set of professional competencies prior to graduation
• Nine competencies, each with a set of competency indicators (i.e., behavior-level manifestations of the competency)

<table>
<thead>
<tr>
<th>Competency</th>
<th># of Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Demonstrate ethical and professional behavior</td>
<td>5</td>
</tr>
<tr>
<td>2) Engage diversity and difference in practice</td>
<td>3</td>
</tr>
<tr>
<td>3) Advance human rights and social, economic, and environmental justice</td>
<td>2</td>
</tr>
<tr>
<td>4) Engage in practice-informed research and research-informed practice</td>
<td>3</td>
</tr>
<tr>
<td>5) Engage in policy practice</td>
<td>3</td>
</tr>
<tr>
<td>6) Engage with individuals, families, groups, organizations, and communities</td>
<td>2</td>
</tr>
<tr>
<td>7) Assess individuals, families, groups, organizations, and communities</td>
<td>4</td>
</tr>
<tr>
<td>8) Intervene with individuals, families, groups, organizations, and communities</td>
<td>5</td>
</tr>
<tr>
<td>9) Evaluate practice with individuals, families, groups, organizations, and communities</td>
<td>4</td>
</tr>
</tbody>
</table>
Example

• Competency 4: Engage in practice-informed research and research-informed practice

• Indicators:
  – 4.1: Use practice experience and theory to inform scientific inquiry and research
  – 4.2: Apply critical thinking to engage in analysis of quantitative and qualitative research methods and research findings
  – 4.3: Use and translate research evidence to inform and improve practice, policy, and service delivery
Evaluation Instruments

• How and where can we best measure and evaluate students’ acquisition of social work competencies?

• Students spend a considerable amount of time in field practicum settings, providing opportunities to demonstrate the emergence and acquisition of competencies

(Bogo, 2010)
Evaluation Instruments

• Student competencies can be subjected to both (a) students’ self-evaluation and (b) evaluation by Field Instructors (FI)

• Some Schools of Social Work use electronic assessment instruments

• Students and FIs indicate students’ level of competence along a scaled continuum with respect to each competency indicator

(Bogo, 2010)
Quick Caveats

- Field-based evaluations have limitations:
  - Leniency bias: FIIs’ propensity to extend their students relatively favorable and positively inflated evaluation scores

- Consequently, other evaluation strategies have been proposed:
  - Vignette-matching
  - Practice simulations

(Bogo, 2010; Vinton & Wilke, 2011)
Quick Caveats

• It is beyond the scope of this presentation to discuss the relative advantages or weaknesses of various evaluation methods

• Advisable to use multiple evaluation methods to measure students’ acquisition of professional competencies

(Bogo, 2010; Council on Social Work Education, 2015; Jensen & Strom-Gottfried, 2018)
Our Instrument

• Electronic evaluation instruments
  – MSW Generalist-level field evaluation
  – MSW Specialization-level field evaluation

• Because specialization-level competency indicators can be school-specific, the content of this presentation focuses on the MSW generalist-level field evaluation

(Council on Social Work Education, 2015)
Our Instrument

• The evaluation includes items that reflect competency indicators across all nine competencies (verbatim from 2015 EPAS)

(Council on Social Work Education, 2015)
Our Instrument

- Evaluation administered at the end of both Fall and Spring semesters
- Our focus is on evaluation scores from Spring semesters, representing the completion of the first year of study
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# Generalist Learning Agreement & Competency Evaluations

## Core Competency 4 - Engage in Practice-informed Research and Research-Informed Practice

### Learning Agreement Activities for Item GC 4.2

<table>
<thead>
<tr>
<th>This student demonstrates the ability to:</th>
<th>Select appropriate learning activities and/or add additional activities in the &quot;other&quot; box.</th>
<th>Check all that apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2 Apply critical thinking to engage in analysis of quantitative and qualitative research methods and research findings.</td>
<td>Participate in an agency research project. Assist agency in gathering research data. Identify the strengths, weaknesses and appropriate use of varying theories and treatment models.</td>
<td>DP CMPP</td>
</tr>
<tr>
<td></td>
<td>(CSWE dimensions: K S)</td>
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</tr>
<tr>
<td></td>
<td>(CSWE dimensions: K S)</td>
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</tr>
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<td></td>
<td>(CSWE dimensions: V K S C)</td>
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</tbody>
</table>

Other:

Other:

### Competency Evaluations for Item GC 4.2

**Rating Criteria:** [help](#)

<table>
<thead>
<tr>
<th>Superior Competence</th>
<th>Emerging Competence</th>
<th>Limited Competence</th>
<th>Not Competent</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**First Evaluation: SOWO 520**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>NA</th>
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**Field Instructor Assessment**

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<th>5</th>
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</table>

**Final Evaluation: SOWO 521**

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<th>1</th>
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<th>5</th>
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</table>

**Student Self-Assessment**

<table>
<thead>
<tr>
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<th>4</th>
<th>5</th>
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**Field Instructor Assessment**

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**PDF of full instrument available at:**

Our Instrument

• Consistent with extant literature, we used a five-point response-option specification to gauge levels of competence

• The wording of response options was intended to maintain a positive framing of student performance

(Bogo et al., 2002; Bogo, 2010)
Our Instrument

- Attempt to account for potential leniency bias among FIs by placing greater response granularity at the high end of the competence distribution

(Vinton & Wilke, 2011)
<table>
<thead>
<tr>
<th>Response Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior Competence (5)</td>
<td>Student adapts the skill to the setting and demonstrates <strong>mastery of the skill in novel, diverse, and difficult contexts.</strong></td>
</tr>
<tr>
<td>Competence (4)</td>
<td>Student consistently understands the skill and its applicability and <strong>effectively and routinely</strong> demonstrates the skills in practice. The student shows an ability to function independently with appropriate supervision and support.</td>
</tr>
<tr>
<td>Emerging Competence (3)</td>
<td>Student understands the skill and demonstrates a <strong>beginning or growing</strong> ability to apply knowledge to practice. The student predominantly functions semi independently with appropriate supervision and support.</td>
</tr>
<tr>
<td>Limited Competence (2)</td>
<td>Student demonstrates <strong>limited and/or inconsistent</strong> understanding of essential knowledge and/or the application of knowledge to practice. More than the usual amount of supervision may be required. There is significant concern about the student’s knowledge and/or practice level. A remediation plan is required.</td>
</tr>
<tr>
<td>Not Competent (1)</td>
<td>Student <strong>does not demonstrate</strong> command of essential knowledge and/or does not demonstrate application of knowledge to practice. The student is practicing well below a satisfactory level.</td>
</tr>
</tbody>
</table>
Example

- **Competency 4**: Engage in practice-informed research and research-informed practice
  - 4.1: Use practice experience and theory to inform scientific inquiry and research.
    - Not Competent (1)
    - Limited Competence (2)
    - Emerging Competence (3)
    - Competence (4)
    - Superior Competence (5)
Our Aims

1) Assess the *psychometric performance of a generalist-level field evaluation instrument*, across both MSW student self-reports and FI reports

2) Assess the *performance of a positively framed, five-point response-option specification* for measuring students’ competence
Data and Sample

• Generalist-level field evaluations completed during Spring semester of the 2015-2016 or 2016-2017 academic years

• Secure web-based application used for the evaluation, accessed via personal computer or other digital device
Data and Sample

• 198 generalist-level (first-year) MSW students and their FIs
• 2/3 of students enrolled in full-time MSW program; others enrolled in distance education
## Data and Sample

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>2015 U.S. Statistic (Full-Time)</th>
<th>2015 U.S. Statistic (Part-Time)</th>
<th>Our Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify as female</td>
<td>84.8%</td>
<td>81.7%</td>
<td>90%</td>
</tr>
<tr>
<td>Identify as White</td>
<td>55.4%</td>
<td>51.3%</td>
<td>74%</td>
</tr>
<tr>
<td>Identify as African American/Black</td>
<td>17.3%</td>
<td>22.5%</td>
<td>12%</td>
</tr>
<tr>
<td>Identify as Latinx</td>
<td>12.8%</td>
<td>12.3%</td>
<td>7%</td>
</tr>
<tr>
<td>Identify as Asian</td>
<td>3.7%</td>
<td>3.1%</td>
<td>1%</td>
</tr>
<tr>
<td>Identify as multiracial</td>
<td>2.7%</td>
<td>2.7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Data and Sample

• Average student age: 29.7 years ($SD = 7.3$)

• 2015 U.S. Statistic (Full-Time)
  – 40.7% between 25 and 34 years old

• 2015 U.S. Statistic (Part-Time)
  – 47.5% between 25 and 34 years old
Analysis

• Confirmatory Factor Analysis
  – Estimator: means- and variance-adjusted weighted least squares (WLSMV)

• Standard errors were corrected for potential within-agency data clustering (few students completed their field practica in the same agency settings)

(Bovaird & Koziol, 2012)
Aim 1

Psychometric Performance of the Evaluation Instrument
Psychometric Performance

• Factor Structure

Diagram:

- Complex Variable
- Latent Variable or Latent Factor
- Factor Loadings
- Observed Indicators

- Item 1
- Item 2
- Item 3
Psychometric Performance

• Confirmatory Factor Analysis

English Translation:
Higher factor loadings = Good
Lower factor loadings = Bad

(DeVellis, 2011)
## Aim 1: Our Findings

**Evidence of valid factor structure?**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Student Self-Reports</th>
<th>FI Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**All Factor Loadings:**

- **Student Self-Reports**: $\geq 0.76$
- **FI Reports**: $\geq 0.68$
Aim 1: Our Findings

• Evidence of valid factor structure across all nine competencies, and with respect to both student self-reports and FI reports

Better English Translation:

Evidence of strong items!
Aim 2

Response-Option Performance
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</table>
Response-Option Performance

• What does it really mean to receive a score of:
  – Not Competent (1)
  – Limited Competence (2)
  – Emerging Competence (3)
  – Competence (4)
  – Superior Competence (5)

• Ordinal-level measures, by definition, lack precision in metric (rank-ordered categorical descriptions versus truly continuous metric)
Response-Option Performance

-3  -2  -1  0  1  2  3

- Competent
  - Limited Competence
  - Emerging Competence
  - Competence
  - Superior Competence

- Not Competent
Distribution of competence in the sample

-3: Not Competent, $\tau(1) = -2.5$
-2: Limited Competence, $\tau(2) = -1.3$
-1: Emerging Competence, $\tau(3) = 0.4$
0: Competence
1: Superior Competence, $\tau(4) = 1.7$
Average level of competence in the sample (mean)
1 standard deviation above the mean in competence
1 standard deviation **below** the mean in competence
For competency indicator 4.1, levels of student competence at which the probability of response-option selection shifts upward

<table>
<thead>
<tr>
<th>Level</th>
<th>Not Competent</th>
<th>Limited Competence</th>
<th>Emerging Competence</th>
<th>Competence</th>
<th>Superior Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>τ(1)</td>
<td>-2.5</td>
<td>τ(2) = -1.3</td>
<td>τ(3) = 0.4</td>
<td>τ(4) = 1.7</td>
<td></td>
</tr>
</tbody>
</table>
When students are $1.7\ SDs$ ($\tau = 1.7$) above the mean for Competency 4, it becomes more likely that the “Superior Competence” response will be selected for competency indicator 4.1, as opposed to the “Competence” response.
Aim 2: Our Findings
*Average threshold values across all competency indicators and competencies
FI Reports

*Average threshold values across all competency indicators and competencies
Aim 2: Our Findings

• Taken together, our results indicate that students and FIs tend to use two main response options: “Competence” or “Superior Competence”

• Limited ability for response options to discriminate across levels of student competence (especially near and above average levels)
Conclusions and Discussion
Aim 1: Conclusions and Discussion

• Findings provide good news
• Competency indicators, as outlined in the 2015 EPAS:
  – (a) appear to cohere well with one another in expected ways
  – (b) might represent well their intended core social work competencies
Aim 1: Conclusions and Discussion

- Our sample is not necessarily representative of all MSW students
- Replication
- Assess factor structure of generalist-level competencies via field evaluation instruments across student subpopulations (e.g., racial/ethnic identity, age, socioeconomic background, program type)
Aim 1: Conclusions and Discussion

- Assess predictive validity of field evaluation instruments that measure social work competencies
- Identifying potential associations between field evaluation scores and subsequent professional performance, job readiness, and other professional benchmarks
Aim 2: Conclusions and Discussion

• The challenge of strong response-option formatting
• Balancing parsimony and an ability to discriminate effectively across levels of competence
• Influence of grade cut-off points, the FI-student relationship, etc.
Article Forthcoming

Slides Available Online

• http://ssw.unc.edu/programs/masters/fieldeducation
Questions?
Thank You!

For Further Information Contact

Todd Jensen, PhD, MSW
919.962.6543 (Office)
jensen@unc.edu

Rebecca Brigham, MSW
919.962.6532 (Office)
brigham@email.unc.edu

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