DEVELOPMENT AND PSYCHOMETRIC TESTING OF THE DEBRIEFING FOR MEANINGFUL LEARNING INVENTORY© (DMLI)

CYNTHIA SHERRADEN BRADLEY PHD, RN, CNE, CHSE
UNIVERSITY OF CENTRAL MISSOURI
Disclosure Statement

Cynthia Sherraden Bradley has no conflicts of interest to disclose.
Background

- Improved learner outcomes through simulation and debriefing
- Recommendations for formal training in a theory-based debriefing method
- Not known how debriefing training improves application of a debriefing method with learners
- Lack of valid instruments to measure application of a specific debriefing method
- Not known how a debriefer enacts a debriefing method with learners
Purpose

The purpose of this study was to determine if the Debriefing for Meaningful Learning Inventory© (DMLI) is a valid measure of the debriefing method Debriefing for Meaningful Learning© (DML).
Instrument Development

- Debriefing for Meaningful Learning©
- Guided reflective thinking model
- Socratic questioning
- Reflection in action, Reflection on action, Reflection beyond action
- Challenging taken for granted assumptions
- Thinking like a nurse
Debriefing for Meaningful Learning Evaluation Scale©(DMLES)

- 31 item behaviorally anchored rating scale
- Cronbach’s alpha = 0.88
- Scale-level CVI = 0.92
Debriefing for Meaningful Learning Inventory © (DMLI)

- 31-item DMLES modified into 57-items
- 5 items assess understanding of DML central concepts
- Binary options: yes/no
- 51 items assess application of DML debriefing behaviors
- Ordinal frequency options: always, sometimes, never
Methods

- Confirmatory factor analysis
- 51 application items
- Latent class factor analysis (LCFA)

Sample:
- 234 nurse educators
- Received debriefing training
- Facilitated simulation debriefing with baccalaureate prelicensure nursing students
# Results

**Goodness of Fit Indices for Analysis with Structural Equation Models**

<table>
<thead>
<tr>
<th>$X^2$</th>
<th>$L^2$</th>
<th>BIC</th>
<th>AIC</th>
<th>CAIC</th>
<th>Bootstrap p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.26</td>
<td>7.08</td>
<td>6630.79</td>
<td>6910.72</td>
<td>6545.79</td>
<td>0.298</td>
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</tbody>
</table>

*Note.* BIC, AIC, CAIC all based on $L^2$. 
## Results

*Parameter Estimates per DFactor*

<table>
<thead>
<tr>
<th>DFactor</th>
<th>Parameter Estimate</th>
<th>Wald Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.4778</td>
<td>5.0692</td>
<td>0.024</td>
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<tr>
<td>2</td>
<td>4.2848</td>
<td>5.2114</td>
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<td>3</td>
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<td>6.275</td>
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<td>4</td>
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<td>7.6418</td>
<td>0.006</td>
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<td>5</td>
<td>1.9086</td>
<td>4.4002</td>
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<tr>
<td>6</td>
<td>0.3105</td>
<td>6.9408</td>
<td>0.009</td>
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</table>
Results

*R-squared for DFactors*

<table>
<thead>
<tr>
<th>DFactor</th>
<th>R²</th>
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<tbody>
<tr>
<td>DFactor 1</td>
<td>Engage</td>
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<tr>
<td>DFactor 2</td>
<td>Explore</td>
</tr>
<tr>
<td>DFactor 3</td>
<td>Explain</td>
</tr>
<tr>
<td>DFactor 4</td>
<td>Elaborate</td>
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<tr>
<td>DFactor 5</td>
<td>Evaluate</td>
</tr>
<tr>
<td>DFactor 6</td>
<td>Extend</td>
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</table>
Conclusions

- LCFA was used to confirm the item groupings of the 52 DMLI application items.
- Each of the six DFactors correlated with the six E’s of DML
- Each of the 52 DMLI application items loaded onto one of the six DFactors
- LCFA demonstrated that the 52 DMLI application items did yield a model of good fit
- DMLI is a valid measure of the application of DML
Implications

- Contributes a tested valid instrument for use in assessing the application of a debriefing method
- Assessment of how evidence-based debriefing methods are translated into teaching practice
References


