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**Extending the FEEB-E: Structural validity and response patterns  
in retrospective and short form assessment**

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# Extending the FEEB-E: Structural validity and response patterns in retrospective and short form assessment

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The Family Engagement Efficacy Beliefs of Educators (FEEB-E) scale was developed as a comprehensive tool to assess efficacy beliefs in family engagement (Bachman, 2023). The results of original exploratory and confirmatory factor analyses were presented at a prior International Network on School, Family, and Community Partnerships presentation (Bachman et al., 2024). The current study extends the FEEB-E by examining the structural validity and response patterns in newly developed retrospective and short form versions of the FEEB-E scale.

## Purpose

The primary purpose of this study was to evaluate the psychometric properties of a newly developed “retrospective pretest” version of the FEEB-E scale. A secondary purpose of the study was to create a “short form” version of the FEEB-E scale to reduce the total number of items while retaining the overall construct validity.

## Main Questions

- (1) Does the retrospective version of the FEEB-E produce scores that retain the established five-factor structure of the original scale, despite the cognitive load of retrospective recall?
- (2) How sensitively does the retrospective FEEB-E detect growth in efficacy beliefs following an intervention, specifically the nuanced differentiation between efficacy domains?
- (3) Can the 20-item scale be further streamlined into a short form to reduce respondent burden while preserving construct validity?

## Sample

Participants were 574 educators from Kentucky schools currently undergoing the Family Friendly Schools certification process. Data was collected in Fall 2025 through an online survey. Participants completed the 20-item FEEB-E twice within a single sitting: first rating their *current* efficacy beliefs using the original version of the FEEB-E, and immediately after, rating their efficacy beliefs prior to starting the certification process using a newly developed retrospective version of the FEEB-E. Following this data collection, the dataset was utilized to conduct a Confirmatory Factor Analysis (CFA) to construct a parsimonious 9-item short form of the scale.

## Main Results

Confirmatory factor analysis (CFA) and paired-samples *t*-tests yielded several findings regarding

the Retrospective FEEB-E as a research tool. First, the CFA confirmed that the retrospective data fit the original 5-factor model well. While inter-factor correlations were high (up to .95), suggesting that participants viewed their past abilities somewhat globally, the distinct factors remained statistically identifiable. A five-factor model demonstrated good fit (CFI = 0.93, RMSEA = 0.065) compared to the Original FEEB-E with the same sample (CFI = 0.94, RMSEA = 0.061).

**Table 1**

*Comparison of Fit Statistics Between Original and Retrospective FEEB-E Versions*

Metric	Original FEEB-E	Retrospective FEEB-E	Benchmark (Goal)	Status
CFI	0.939	0.929	> 0.90	Good Fit
RMSEA	0.061	0.065	< 0.08	Good Fit

Second, paired samples *t*-tests indicated statistically significant growth ( $p < .001$ ) across all five efficacy factors. Third, analysis of effect sizes (Cohen's *d*) demonstrated that the high factor correlations did not result in uniform scoring. Participants distinguished between areas with minimal improvement and those with substantial growth. For example, factor 1 (*Collaborating for Learning*) showed a small effect size ( $d = 0.17$ ), indicating participants honestly reported little change in this domain. In contrast, factor 4 (*Honoring All Families*) showed a medium effect size ( $d = 0.45$ ), indicating substantial impact. This variation confirms that the retrospective FEEB-E captures specific, domain-level changes rather than a generic sense of improvement.

**Table 2**

*Growth in Efficacy Beliefs due to Family-Friendly Schools Intervention*

Factor	Retrospective Mean (SD)	Original Mean (SD)	<i>t</i> ( <i>df</i> )	<i>p</i>	Cohen's <i>d</i>
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F1: Collaborating for Learning	6.14 (0.80)	6.27 (0.88)	3.58* (472)	< .001	0.17
F2: Communicating	6.13 (0.87)	6.39 (0.76)	7.78* (470)	< .001	0.36
F3: Partnering	5.85 (0.93)	6.12 (0.83)	8.71* (467)	< .001	0.40
F4: Honoring All Families	6.39 (0.72)	6.67 (0.57)	9.60* (463)	< .001	0.45
F5: Embracing Equity	6.09 (0.90)	6.39 (0.70)	8.96* (463)	< .001	0.42

Note. *N* ranges from 464 to 473 due to sporadic missing data. All tests are two-tailed. *df* = degrees of freedom.

## Secondary Results

Using Confirmatory Factor Analysis (CFA), the original 20-item scale was further refined into a streamlined 9-item Short Form.

Statistical testing revealed that the original factors of “*Collaborating for Learning*” and “*Communication*” were highly correlated, indicating that participants view these as a singular skill set. Consequently, these factors were merged into a single “*Support*” factor. The original FEEB-E scale includes a fifth factor, “*Embracing Equity*,” which assesses sociopolitical awareness. However, this factor was omitted from the short form to minimize response bias and ensure the instrument focused strictly on professional capability across a wide variety of policy contexts. Items related to “social context” and “bias” were deemed less reliable indicators of the specific skills developed in family engagement professional development.

The final 3-factor, 9-item structure demonstrated exceptional statistical fit (CFI = .982), confirming that the shorter scale produces scores as valid for interpretation as the longer version. All retained items demonstrated strong standardized loadings ranging from 0.78 to 0.90 ( $p < .001$ ). Factor correlations ranged from 0.56 to 0.77, indicating that while the skills are related, the three factors measure distinct constructs.

## Major Implications

The study provides evidence that the retrospective and short form versions of the FEEB-E yield valid scores for interpreting educator growth. The retrospective pretest format successfully mitigates response shift bias by allowing respondents to use a single internal metric for both time points. By capturing change in a single administration, the retrospective FEEB-E eliminates the attrition common in traditional pre-post designs. The scale is sensitive enough to distinguish

between domains where an intervention was highly effective and those requiring further support, facilitating data-driven decisions about program effectiveness. The short form version of the FEEB-E allows for the measurement of three distinct family engagement efficacy beliefs: Supporting Success, Partnering, and Honoring, without burdening respondents with a lengthy survey.

## References

- Bachman, H. F. (2023). *Family engagement efficacy beliefs of educators: Validating the interpretation and use of a new measure*. The Ohio State University.
- Bachman, H. F., Beard, K. S., & Boone, B. J. (2024, April 11). *Family engagement efficacy beliefs: Measuring the mindsets of educators* [Conference presentation]. 21<sup>st</sup> Roundtable of the International Network on School, Family, and Community Partnerships, Philadelphia, PA, United States.

## Appendix A: FEEB-E Retrospective

Please answer the following questions about your work with families at your school. The responses range from very true of me to very untrue of me. Read each statement, and select the one response that most clearly represents how well the statement matches your abilities at the current time.

1. I am capable of assisting families in helping their children do well in school.
2. I can successfully encourage families to support their children's academics.
3. Even if a student is struggling, I am capable of helping a family engage in educational activities.
4. I am able to connect learning to my students' home lives.
5. I can communicate student progress to families in ways they understand.
6. I can confidently talk with families about concerns for struggling students.
7. I can use various communication methods to reach families.
8. I can involve families in the school community.
9. I am capable of building connections among families.
10. I am able to incorporate families' ideas to improve my work.
11. I am able to prioritize partnering with families, even when I have a lot to do.
12. I can use data to learn how well I am engaging families in my school.
13. I can work together with families to advance common goals.
14. I can work with families to advocate for change in my school.
15. I can demonstrate respect for families who have a different culture than mine.
16. I am capable of valuing the perspectives of families of any background.
17. I can build relationships with families who are different from me.
18. I can reflect on how community history influences my relationships with families.
19. I can reflect on how social context influences my relationships with families.
20. I am able to recognize my biases when interacting with families.

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Thinking back to when you first started [the program/intervention], how true was each of the following statements of you at that time?

21. Thinking back to the beginning, I was capable of assisting families in helping their children do well in school.
22. Thinking back to the beginning, I could successfully encourage families to support their children's academics.
23. Thinking back to the beginning, even if a student was struggling, I was capable of helping a

family engage in educational activities.

24. Thinking back to the beginning, I was able to connect learning to my students' home lives.
25. Thinking back to the beginning, I could communicate student progress to families in ways they understood.
26. Thinking back to the beginning, I could confidently talk with families about concerns for struggling students.
27. Thinking back to the beginning, I could use various communication methods to reach families.
28. Thinking back to the beginning, I could involve families in the school community.
29. Thinking back to the beginning, I was capable of building connections among families.
30. Thinking back to the beginning, I was able to incorporate families' ideas to improve my work.
31. Thinking back to the beginning, I was able to prioritize partnering with families, even when I had a lot to do.
32. Thinking back to the beginning, I was able to use data to learn how well I was engaging families in my school.
33. Thinking back to the beginning, I could work together with families to advance common goals.
34. Thinking back to the beginning, I could work with families to advocate for change in my school.
35. Thinking back to the beginning, I could demonstrate respect for families who had a different culture than mine.
36. Thinking back to the beginning, I was capable of valuing the perspectives of families of any background.
37. Thinking back to the beginning, I could build relationships with families who were different from me.
38. Thinking back to the beginning, I could reflect on how community history influenced my relationships with families.
39. Thinking back to the beginning, I could reflect on how social context influenced my relationships with families.
40. Thinking back to the beginning, I was able to recognize my biases when interacting with families.

**Scale**

7. Very true of me
6. True of me
5. Somewhat true of me
4. Neutral
3. Somewhat untrue of me

2. Untrue of me
1. Very untrue of me

## Appendix B: FEEB-E Short Form

Please answer the following questions about your work with families at your school. The responses range from very true of me to very untrue of me. Read each statement and select the one response that most clearly represents how well the statement matches your abilities now.

### *[Factor 1 - Efficacy for Support]*

1. Even if a student is struggling, I am capable of helping a family support their child's learning and development.
2. I can communicate student progress to families in ways they understand.
3. I can confidently talk with families about concerns for struggling students.

### *[Factor 2 - Efficacy for Partnering]*

4. I am able to incorporate families' ideas to improve my work.
5. I am able to prioritize partnering with families, even when I have a lot to do.
6. I can use data to learn how well I am engaging families in my school.
7. I can work together with families to advance common goals.

### *[Factor 3 - Efficacy for Honoring all Families]*

8. I am capable of valuing the perspectives of families of any background.
9. I can build relationships with families who are different from me.

## Scale

7. Very true of me
6. True of me
5. Somewhat true of me
4. Neutral
3. Somewhat untrue of me
2. Untrue of me
1. Very untrue of me