



# Development and validation of the Guilt About Child Feeding Scale

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## Background

- Guilt is consistently identified as an important correlate of parental feeding behaviors.
- The literature is mixed regarding whether guilt in the domain of health behavior is adaptive or maladaptive among parents.<sup>1,2,3</sup>
- It is likely that these mixed findings are partially attributable to the lack of a validated self-report measure to assess parental guilt about child feeding.<sup>4</sup>

## Aims

- The goal of this study was to develop and validate the Guilt About Child Feeding (GACF) Scale.
- The GACF is intended for use among parents of 3-13 year-old children.

## Development

### Item Generation

- We created an 18-item pool of child feeding scenarios based on (1) experiences cited by parents in qualitative studies and (2) a focus-group style discussion with local parents.
- Responses indicative of guilt (affective, e.g., feeling regret or remorse; and behavioral, e.g., wanting to fix things or do better in the future) were then created.

### Content Validity

- Six domain experts rated the quality of the preliminary items from 1-7 and left open-ended feedback.
- Items with negative feedback were revised or removed; new items were created based on experts' recommendations.

### Item Refinement

- 118 parents of 3-13 year-olds responded to each of the 18 items in the pool, then rated the item in terms of relevance to his/her own life.
- Four items were removed at this stage; all displayed serious floor effects and low relevance ratings. Five items were reworded based on open-ended feedback.

## Item Response Theory Analyses

### Sample

- 513 parents (306 mothers; 207 fathers) with a child aged 3-13 were recruited through Amazon mTurk
- 73.1% of parents were married; 49.1% had a college degree; 79.5% were White; 41.9% self-identified as about the right weight whereas 53.8% self-identified as overweight; average parent age was 36.44 years
- 52% of children were female; 10.3% of parents identified their child as overweight; average age was 8.48 years

### Exploratory Factor Analysis

- Eigenvalues (Factor 1 = 8.418, Factor 2 = 1.118) indicated the presence of one dominant underlying factor; thus, unidimensional IRT was warranted

### Model & Item Characteristics

- The Graded Response Model (GRM) yielded significantly better model fit than Rasch-family models.
- The GACF item discriminations ranged from 1.258 to 3.146, which are medium to large values.
- Item thresholds (locations) displayed good separation and increased monotonically, indicating that the GACF items and response set behaved well.

Figure 2. Item characteristic curves (ICCs) for selected items.

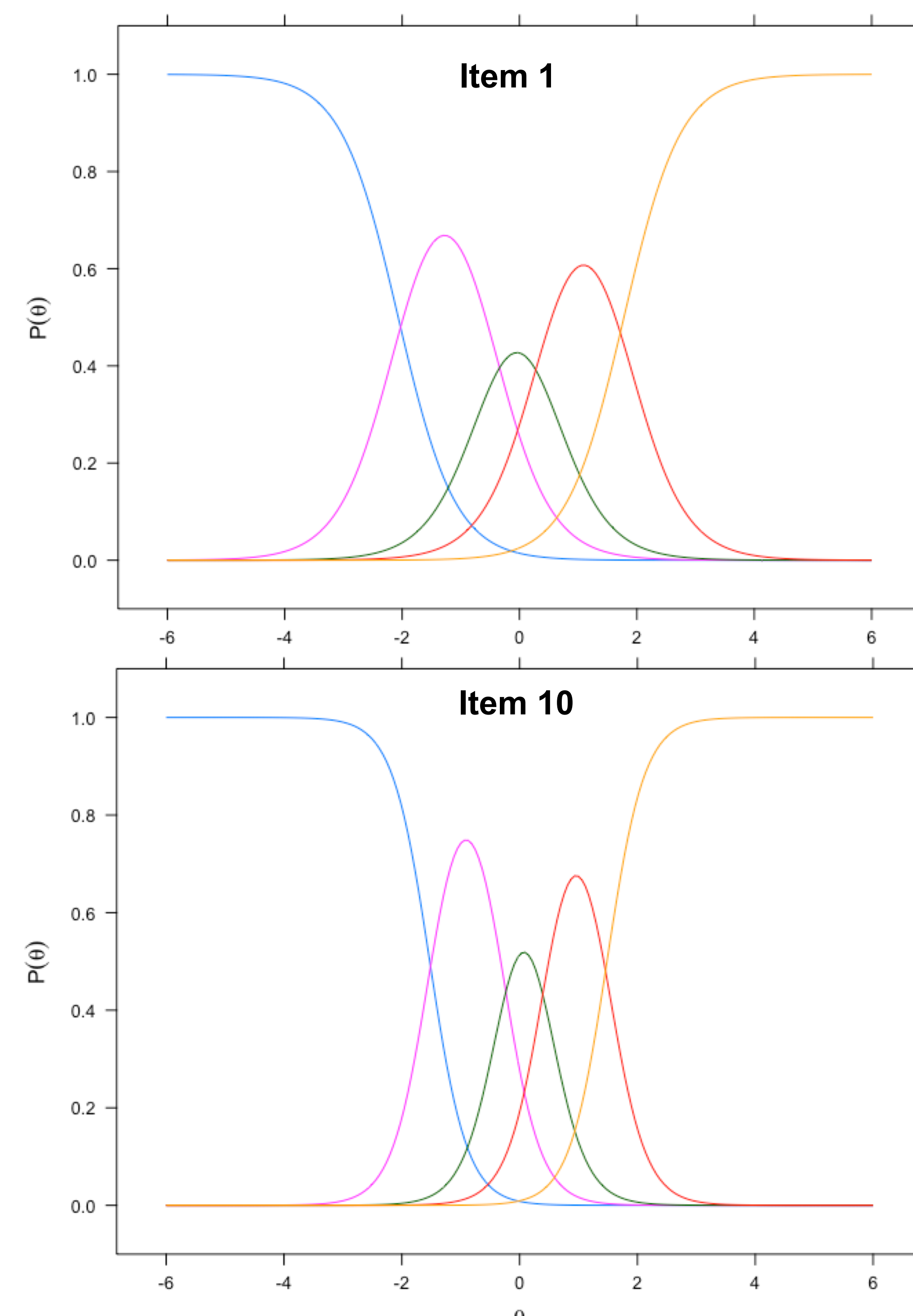


Table 1. Item parameter estimates from the GRM.

Item	$\alpha$ (SE)	$\delta_1$ (SE)	$\delta_2$ (SE)	$\delta_3$ (SE)	$\delta_4$ (SE)
1	2.048 (0.154)	-4.233 (0.281)	-1.001 (0.149)	0.825 (0.149)	3.643 (0.242)
2	2.358 (0.173)	-4.153 (0.279)	-0.535 (0.158)	1.359 (0.170)	4.081 (0.273)
3	1.853 (0.140)	-2.575 (0.184)	-0.476 (0.137)	1.299 (0.149)	3.248 (0.214)
4	1.684 (0.139)	-0.827 (0.134)	0.837 (0.134)	2.138 (0.165)	3.875 (0.256)
5	2.084 (0.164)	-0.459 (0.146)	1.398 (0.161)	2.938 (0.211)	4.843 (0.329)
6	2.165 (0.158)	-3.312 (0.225)	-0.811 (0.153)	0.739 (0.152)	3.060 (0.214)
7	2.232 (0.163)	-2.240 (0.186)	-0.100 (0.151)	1.378 (0.164)	3.533 (0.236)
8	2.821 (0.206)	-4.043 (0.287)	-0.219 (0.177)	1.566 (0.194)	4.279 (0.296)
9	2.215 (0.166)	-1.409 (0.164)	0.475 (0.151)	2.008 (0.179)	4.190 (0.279)
10	3.146 (0.229)	-4.799 (0.339)	-0.919 (0.198)	1.379 (0.205)	4.663 (0.329)
11	1.802 (0.139)	-2.400 (0.176)	-0.556 (0.135)	0.806 (0.138)	2.618 (0.185)
12	1.258 (0.114)	-1.257 (0.126)	-0.068 (0.113)	1.049 (0.123)	2.837 (0.185)
13	2.488 (0.179)	-3.329 (0.237)	-0.498 (0.164)	1.39 (0.176)	3.894 (0.263)
14	2.238 (0.164)	-3.346 (0.229)	-0.717 (0.155)	0.766 (0.156)	3.191 (0.222)

$\alpha$  = item discrimination;  $\delta_1$  = first item threshold;  $\delta_2$  = second item threshold; etc.

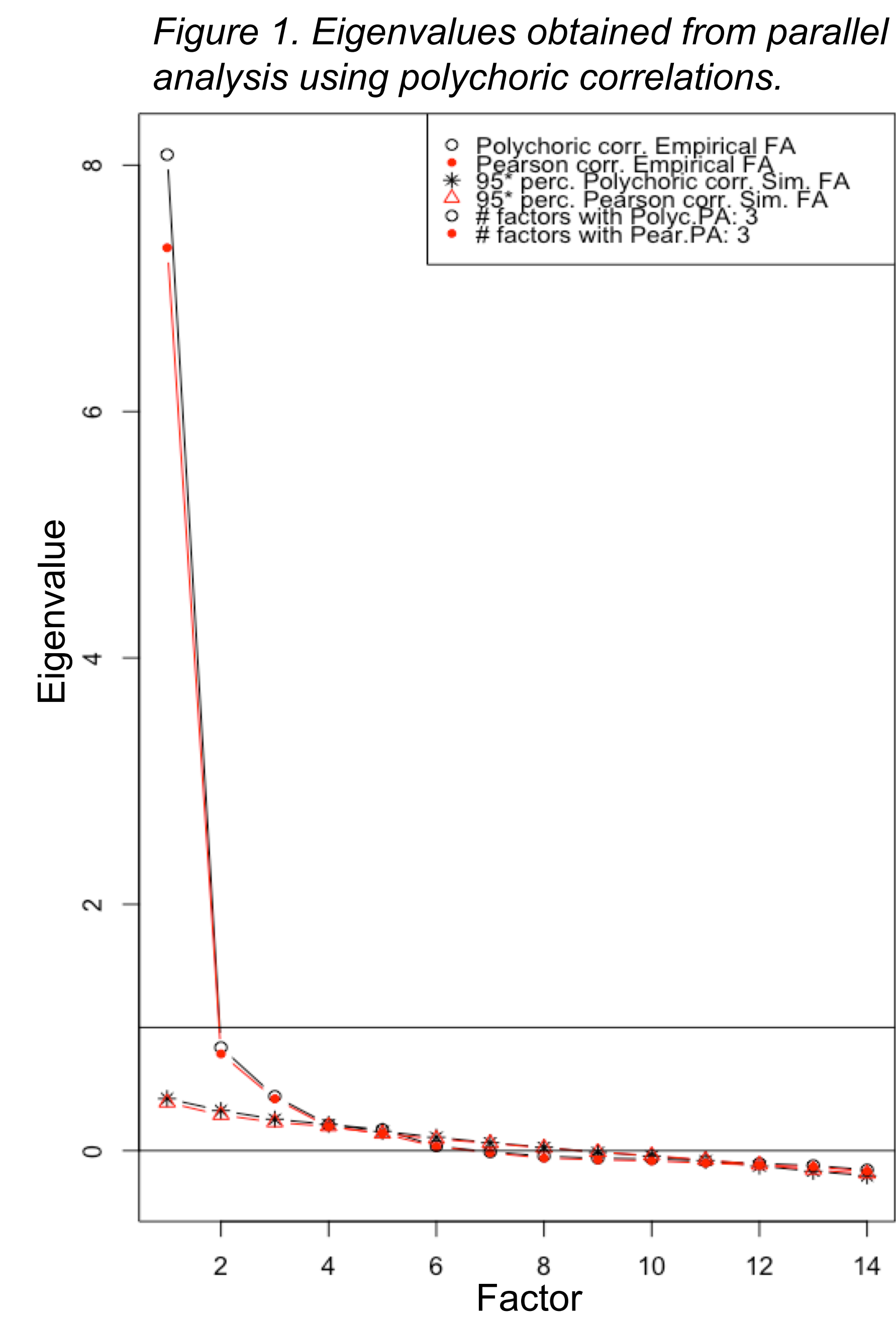


Figure 1. Eigenvalues obtained from parallel analysis using polychoric correlations.

## Construct Validity

- Differential item functioning (DIF) was not detected across parent gender, parent weight status, or parent education, indicating that the GACF behaves comparably across parent demographic groups.
- The GACF was positively correlated with global shame proneness, depressive symptoms, and child food fussiness. Negative correlations arose with global self-esteem and healthy feeding practices.

Table 2. Correlations among the GACF and relevant covariates.

Covariate	r
<b>Global guilt and shame proneness</b>	
GASP-Guilt (Negative behavior evaluation)	0.035
GASP-Guilt (Repair)	0.027
GASP-Shame (Negative self evaluation)	0.147**
GASP-Shame (Withdrawal)	0.336**
TOSCA-Guilt	-0.027
TOSCA-Shame	0.254**
<b>Theoretically relevant covariates</b>	
Depressive symptoms	0.372**
Global self-esteem	-0.202**
<b>Face-valid guilt items</b>	
Guilt about child eating habits	0.661**
Guilt about child physical activity habits	0.405**
Guilt about home environment	0.544**
<b>Perceived child feeding practices</b>	
Healthy food modeling	-0.137**
Food environment	0.067
Healthfulness of child diet	-0.411**
Child fruit/veg intake	-0.316**
Child feeding responsibility	0.062
<b>Perceived child eating behavior and weight</b>	
Food fussiness	0.212**
Concern about child weight	0.390**

## Conclusions

- The 14-item GACF behaves well psychometrically among parents of 3-13 year-olds, regardless of parent demographics, and is suitable for use in this population.
- Correlations provide further evidence that parental feeding-related guilt is a fundamentally maladaptive emotion.

Table 3. Selected items from the final 14-item GACF.

Item	Content
1	When I think about the foods I usually keep in my home, I feel like I should be doing better.
5	When I think about the types of foods I usually let my child order when we eat out, I feel regretful.
13	When I think about the times I've fed my child unhealthy processed foods, I feel like I want to go back and fix my behavior.

Response set: 1=not at all true, 2=somewhat true, ..., 5=extremely true

## References

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