

# Thought-Shape Fusion in a Residential Eating Disorder Sample

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# The Thought Shape Fusion Questionnaire should be revised when used in clinical settings

## Introduction

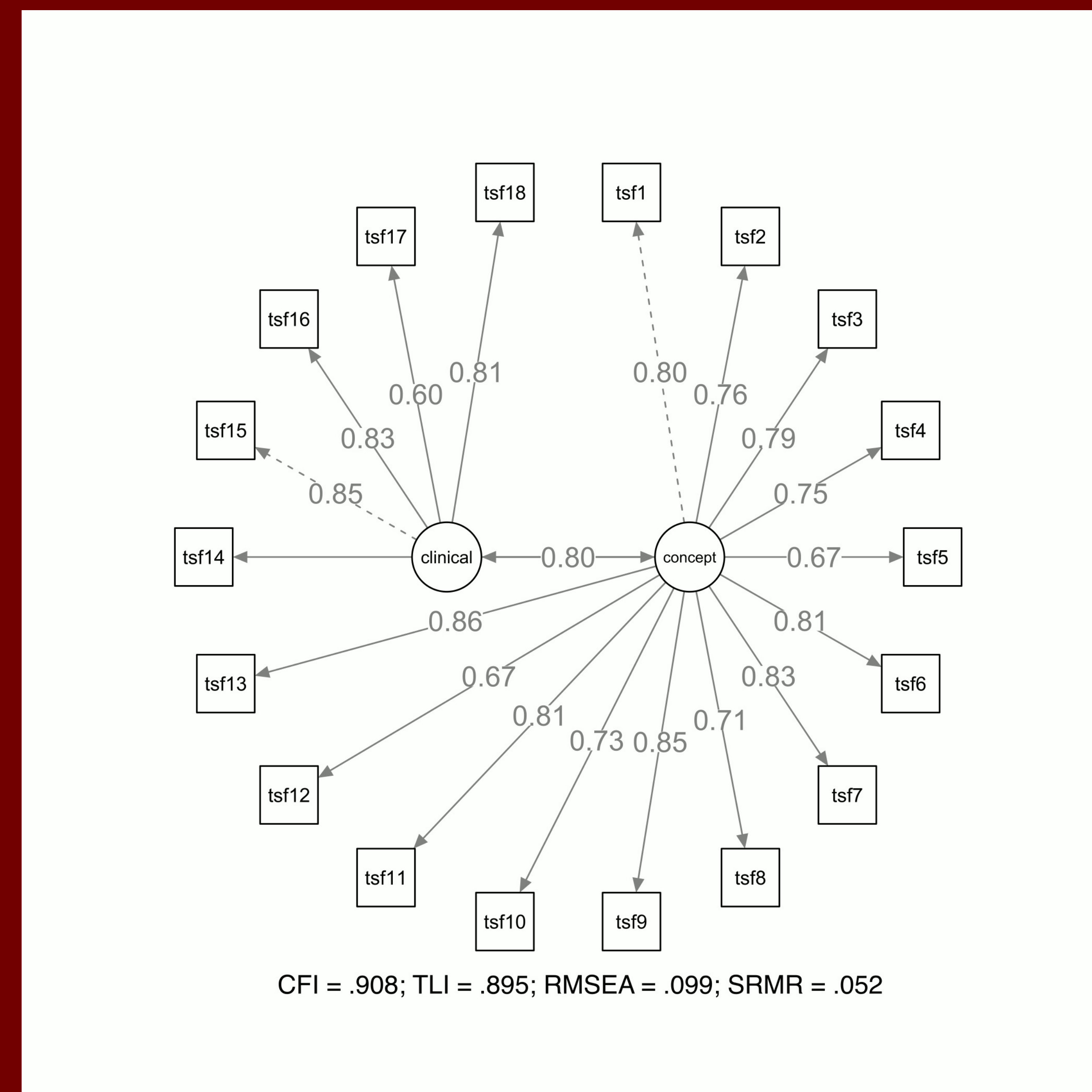
- The 18-item Thought Shape Fusion questionnaire is theorized to be a two-factor model comprised of:
  - 14 items that measure the trait of thought-shaped fusion (Concept)
  - 4 items that measure clinically relevant factors (Clinical)
- The goal of this study is to examine the psychometric properties of the questionnaire in a residential clinical sample and examine the construct in adult and adolescent patients

## Methods

- The sample consisted of 174 (57% adults) female participants diagnosed with an eating disorder.
- T-tests were conducted to compare potential differences between adolescents and adults for all variables.
- A confirmatory factor analysis was conducted to examine the two-factor structure of the Thought Shape Fusion Questionnaire proposed by Coelho et al., 2013 (i.e., "Concept" = items 1-14; "Clinical" = items 15-18).
- Fit indices used include: RMSEA  $\leq$  .08 considered acceptable, SRMR  $\leq$  .05 considered good  $\leq$  .08 considered acceptable, CFI  $\geq$  .95 considered good.

## Results

- On average, adult participants endorsed significantly higher levels of thought action fusion, eating disorder severity, and other related constructs than adolescent participants ( $ps < .001$ ).
- The proposed two-factor structure displayed overall poor model fit.
- Further exploratory and confirmatory factor analysis resulted in a new, data-driven two-factor model.

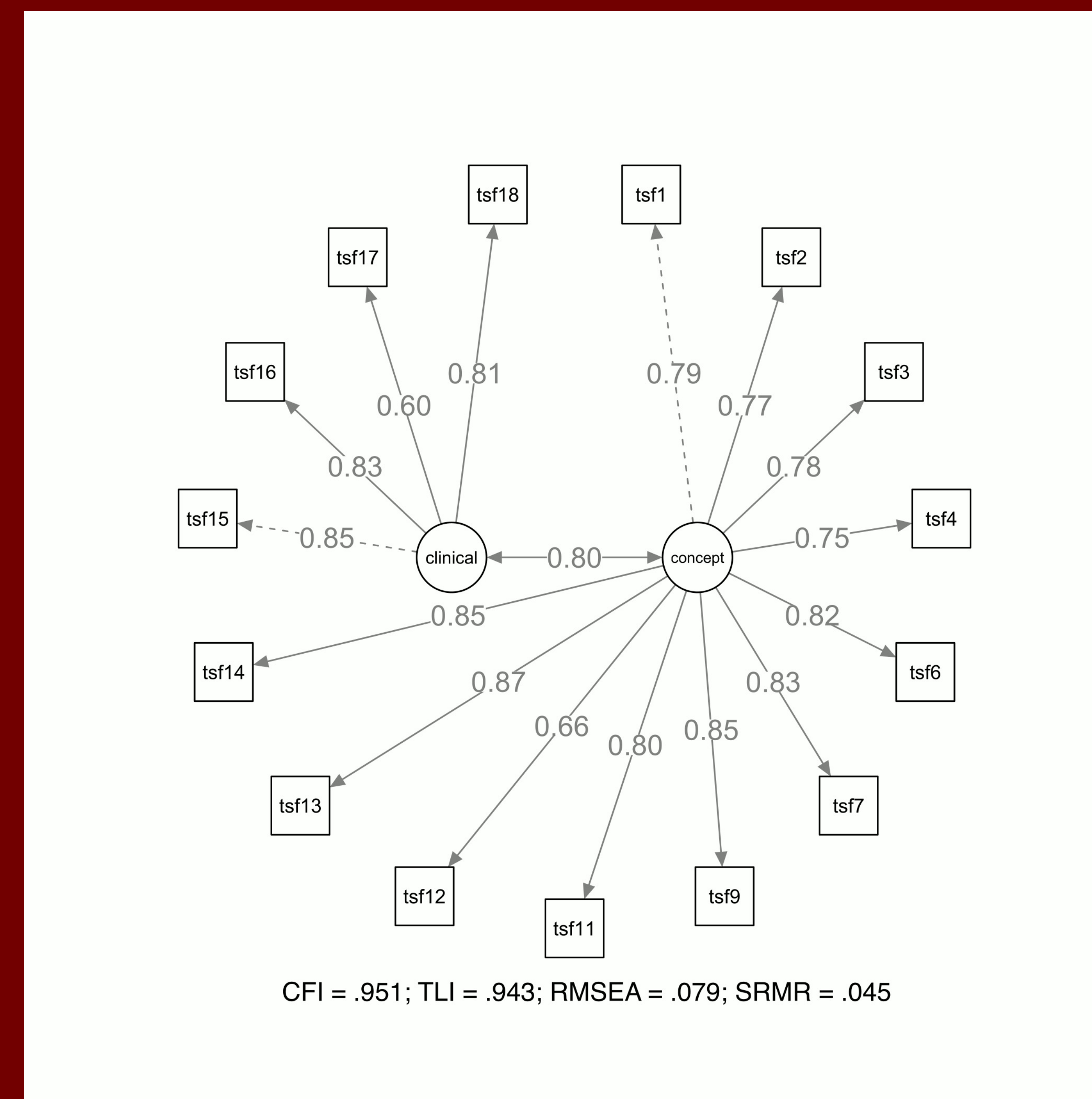


## Coelho et al.'s 2-factor model

- This version of the Thought Shape Fusion Questionnaire was validated using a student sample.
- Model fit was poor in the current study's clinical sample.
- Subsequent exploratory factor analysis resulted in a very similar, poorly fit factor structure.

## Revised 2-factor model

- Post-hoc residual covariance modification indices were examined.
- Three items with multiple large indices (e.g., 45.9, 27.3, 20.8) were removed from the "concept" factor.
- Removed items:
  - 5 - "I feel huge if I just imagine not exercising for a month"
  - 8 - "Just thinking about not exercising can change the way I really look"
  - 12 - "My shape can actually change, just by me planning to eat fattening food"
- The revised factor structure demonstrated adequate to good model fit.



## Discussion

- Adult and adolescent participants reported significantly different levels of thought shape fusion on average.
- Coelho et al.'s, version of the Thought Shape Fusion Questionnaire may not be appropriate for people with clinical levels of eating disorder symptoms.
- The current study's revised version of the measure appears to improve model fit and should be considered when used in clinical settings; however, further psychometric work is needed in clinical samples.
- Potential differences in how Thought Shape Fusion Questionnaire items are interpreted and scored by adults and adolescents is needed.
- The measure was not originally validated with adolescents which might be a factor in the current study's results.
- Both the original Coelho et al. (2013) sample and the current study's sample consisted of predominately white, female participants. Further validation work is needed with more diverse samples.

Table 1  
Participant Demographics

	Adolescent (n = 75)	Adult (n = 99)	Combined (n = 174)
Age	15.1 (1.46)	26.1 (8.33)	21.4 (8.36)
Ethnicity			
White	70 93.33%	95 95.96%	165 94.82%
Asian	6 8%	2 2.02%	8 4.59%
Pacific Islander	3 4%	3 3.03%	6 3.44%
Hispanic / Latino	5 6.67%	2 2.02%	7 4.02%
Black	0 0%	2 2.02%	2 1.14%
Indian	0 0%	2 2.02%	2 1.14%

Table 2  
Means & t-Tests Comparing Adolescent and Adult Participants Scores

	Adolescent (n = 75)	Adult (n = 99)	Combined (n = 174)	t*	d
TSF	45.3 (18.9)	57.4 (19.7)	52.3 (20.1)	4.07	0.62
Clinical	11.1 (4.2)	13.8 (4.56)	12.7 (4.56)	4.03	0.61
Trait	34.2 (15.6)	43.6 (16.3)	39.7 (16.5)	3.82	0.58
BAI	21.5 (11.3)	29.5 (11.8)	26.2 (12.2)	4.51	0.69
BDI	28.9 (12.4)	37.1 (11.3)	33.7 (12.5)	4.57	0.69
BIAAQ	49.3 (15)	59.4 (12.8)	55.2 (14.5)	4.79	0.73
EDE	75.1 (35)	102 (29.9)	90.8 (34.6)	5.5	0.84
SCS	15.2 (4.54)	12.4 (4.21)	13.6 (4.53)	-4.11	-0.62

\*All t-scores have a p-value of  $< .001$

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