What shapes our positive experiences of challenging situations?

Developing and validating the Comprehensive Hierarchical Eustress Review (CHER)

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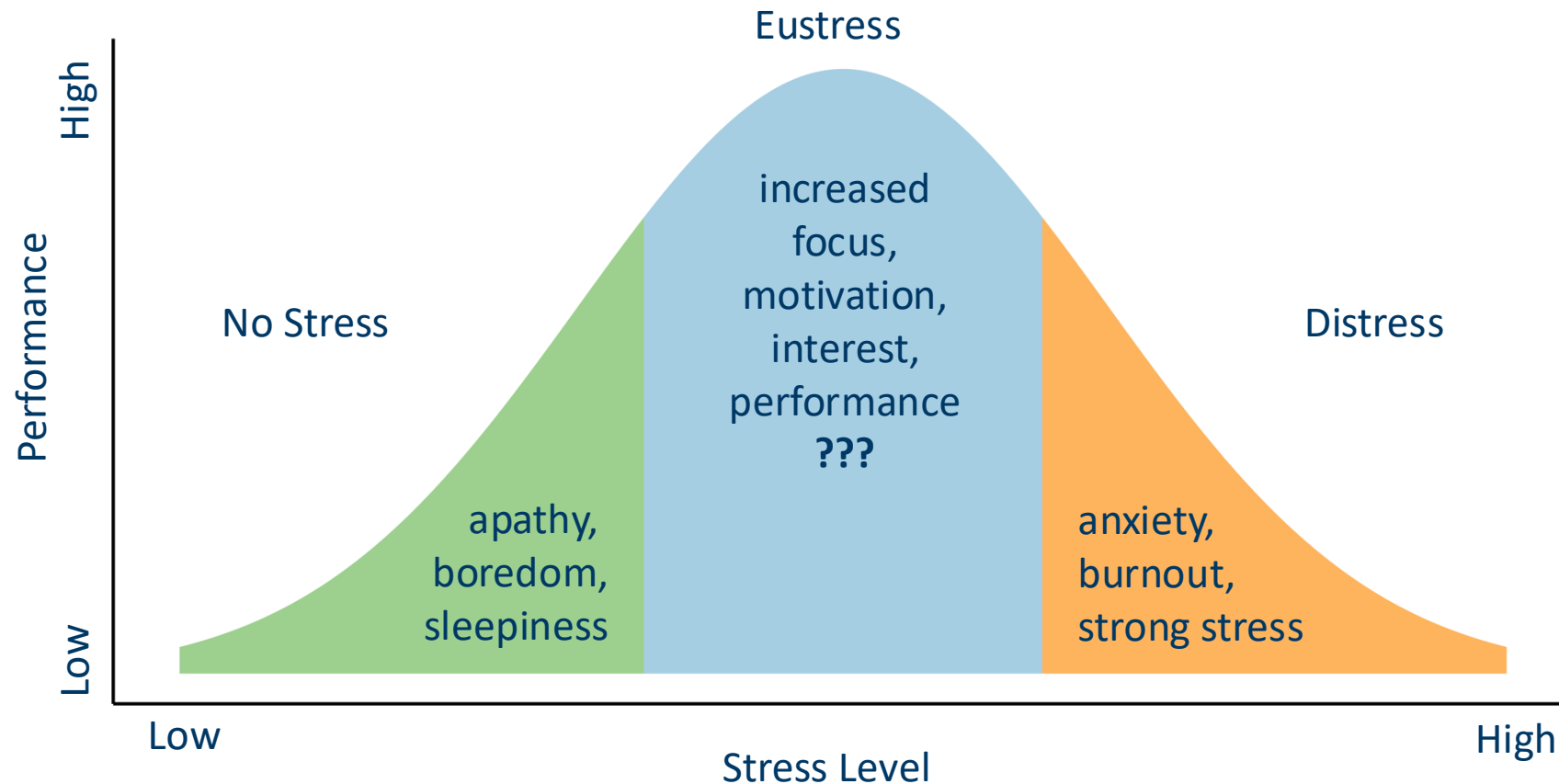*Manuscript under review*

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Background

- Eustress = the positive experience of a challenging situation

(Lazarus & Folkman, 1984, 1987; Selye, 1936, 1974)

Research questions

1. What features of eustress are central to experiencing challenging situations positively? What psychometric structure best fits these features?

2. How is eustress related to distress and psychological wellbeing?

3. Do groups of individuals share similar eustress profiles?

Methods

"When you think about yourself across the challenging situations in your life, how resilient are you?"

"When experiencing challenging situations, how much do you find yourself flourishing and thriving in the moment?"

- Developed a novel eustress instrument:

  Comprehensive Hierarchical Eustress Review (CHER)
  - Based on the Comprehensive Hierarchical construct of Eustress (CHE)
  - Contains 47 items across 3 subscales: goal-directed action, momentary experience, stable qualities

"When achieving personal goals in challenging situations, how much do you benefit from feeling productive?"

- Evaluated CHER in a well-powered **UK adult sample (N = 260)**
  - Gender: 128 men, 127 women, 3 genderqueer/ non-binary, 2 N/A
  - Age: M = 44.60 years | SD = 13.60

Kloidt, J. & Barsalou, L.W. Establishing a Comprehensive Hierarchical construct of Eustress (CHE). Curr Psychol 43, 32258–32273 (2024). https://doi.org/10.1007/s12144-024-06750-7
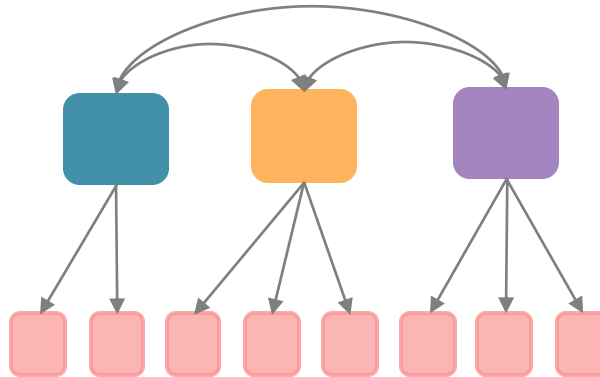
RQ1: Psychometric structure of eustress

Confirmatory factor analysis (CFA)
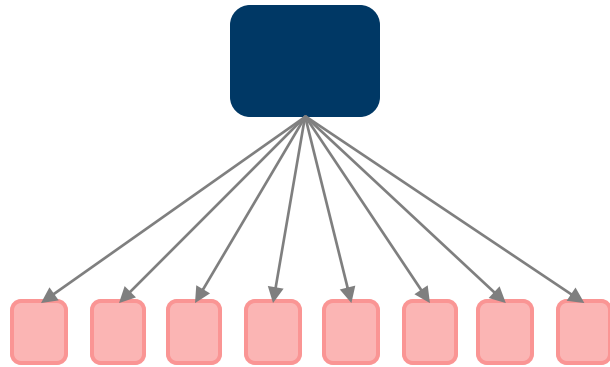
1. Single factor

Eustress is unidimensional

2. Correlated-factors

Eustress is exclusively multidimensional
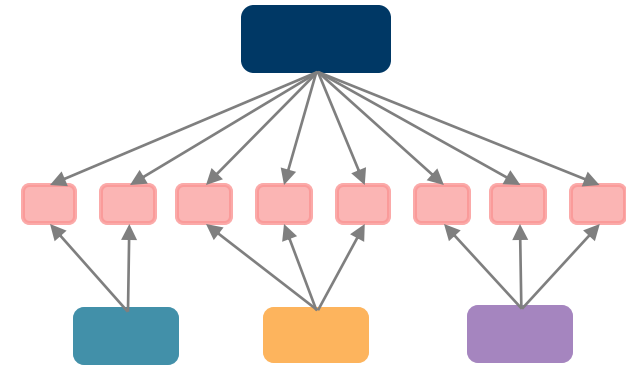
3. Bifactor

Eustress is simultaneously unidimensional & multidimensional

RQ1: Psychometric structure of eustress

Confirmatory factor analysis (CFA)

- Item retention
  - Remove items that are not essential for measuring eustress
  - Stepwise removal of items with main factor loading $< |.50|$

- Model selection
  - Reasonable model fit & conceptual interpretability

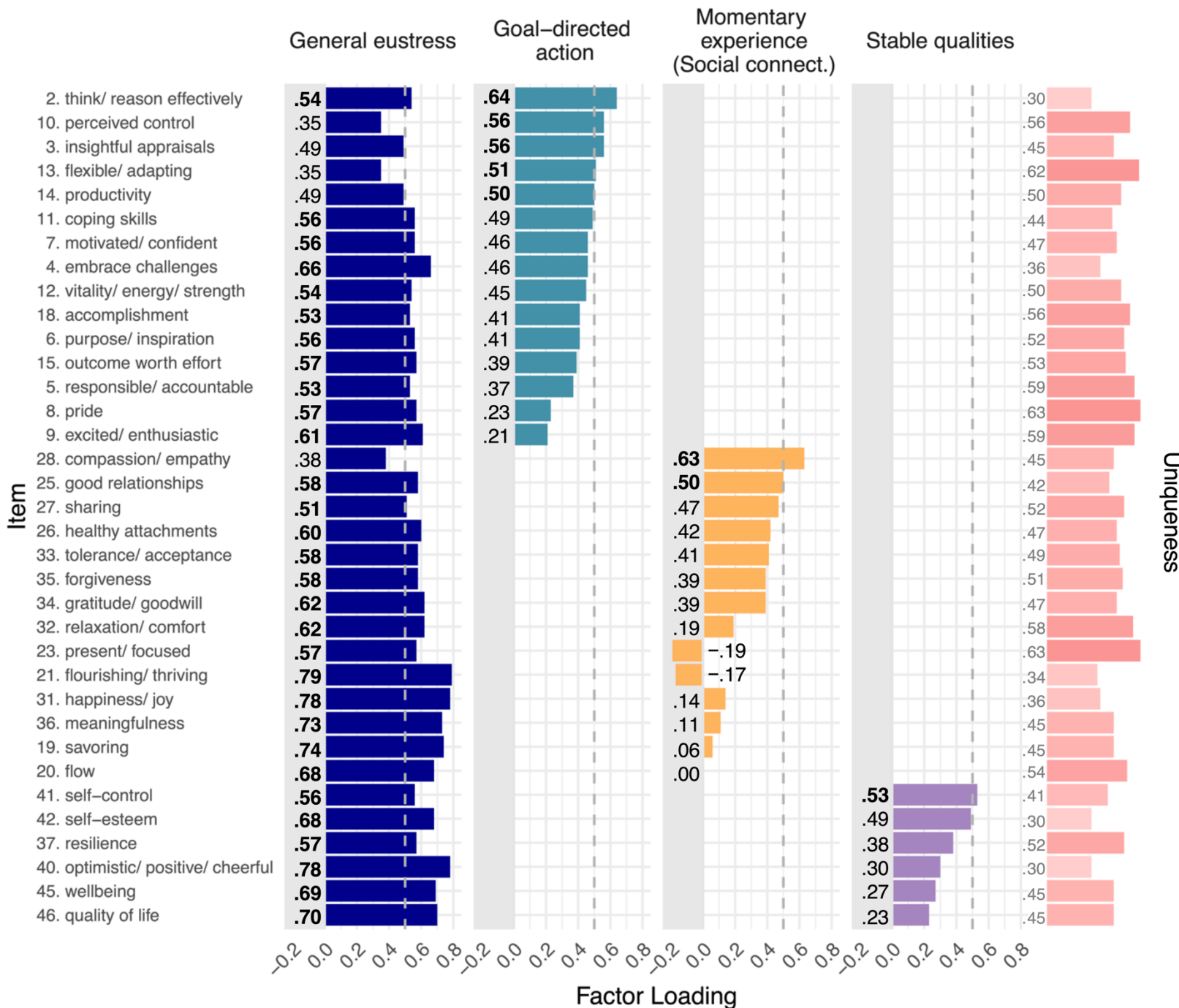| Item	General eustress	Goal-directed action	Momentary experience (Social connect.)	Stable qualities	Uniqueness
2. think/ reason effectively	.54	.64			.30
10. perceived control	.35	.56			.56
3. insightful appraisals	.49	.56			.45
13. flexible/ adapting	.35	.51			.62
14. productivity	.49	.50			.50
11. coping skills	.56	.49			.44
7. motivated/ confident	.56	.46			.47
4. embrace challenges	.66	.46			.36
12. vitality/ energy/ strength	.54	.45			.50
18. accomplishment	.53	.41			.56
6. purpose/ inspiration	.56	.41			.52
15. outcome worth effort	.57	.39			.53
5. responsible/ accountable	.53	.37			.59
8. pride	.57	.23			.63
9. excited/ enthusiastic	.61	.21			.59
28. compassion/ empathy	.38		.63		.45
25. good relationships	.58		.50		.42
27. sharing	.51		.47		.52
26. healthy attachments	.60		.42		.47
33. tolerance/ acceptance	.58		.41		.49
35. forgiveness	.58		.39		.51
34. gratitude/ goodwill	.62		.39		.47
32. relaxation/ comfort	.62		.19		.58
23. present/ focused	.57		−.19		.63
21. flourishing/ thriving	.79		−.17		.34
31. happiness/ joy	.78		.14		.36
36. meaningfulness	.73		.11		.45
19. savoring	.74		.06		.45
20. flow	.68		.00		.54
41. self-control	.56			.53	.41
42. self-esteem	.68			.49	.30
37. resilience	.57			.38	.52
40. optimistic/ positive/ cheerful	.78			.30	.30
45. wellbeing	.69			.27	.45
46. quality of life	.70			.23	.45

Factor Loading

Model 3: Bifactor

Overview:
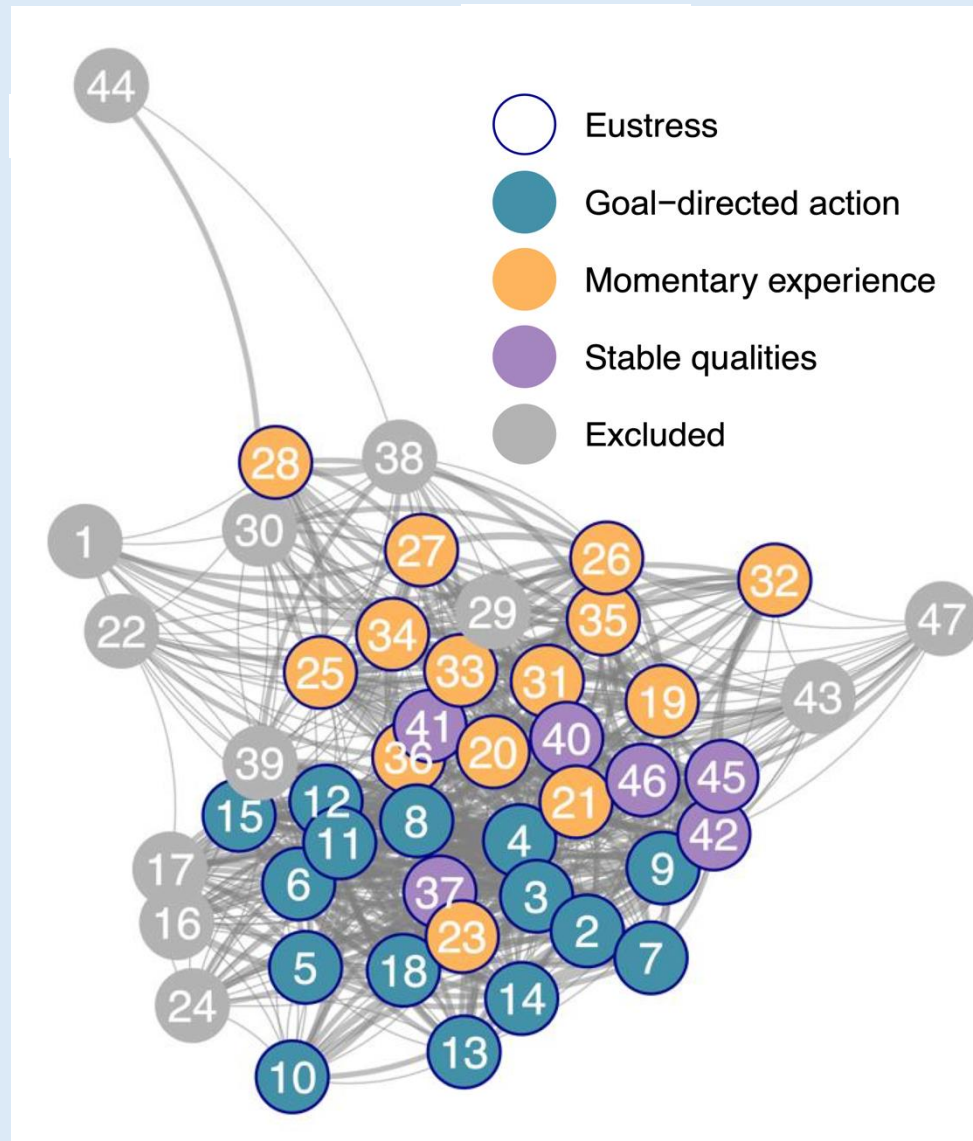- 35/47 items retained
- Orthogonal factors

Model fit:
- R^2 = 52.17%
- CFI = .881
- TLI = .865
- RMSEA (90% CI) = .069 (.064 − .075)

Eustress is best explained by a general factor and 3 specific factors (~subscales)

Central features of eustress

Items
1. physical / social support
2. think / reason effectively
3. insightful appraisals
4. embrace challenges
5. responsible / accountable
6. purpose / inspiration
7. motivated / confident
8. pride
9. excited / enthusiastic
10. perceived control
11. coping skills
12. vitality / energy / strength
13. flexible / adapting
14. productivity
15. outcome worth effort
16. improvement / growth / development
17. learning
18. accomplishment
19. savoring
20. flow
21. flourishing / thriving
22. mindful
23. present / focused
24. alert
25. good relationships
26. social attachments
27. sharing
28. compassion / empathy
29. inter-dependence
30. larger than self
31. happiness / joy
32. relaxation / comfort
33. tolerance / acceptance
34. gratitude / goodwill
35. forgiveness
36. meaningfulness
37. resilience
38. kind / altruistic
39. loyal / committed
40. optimistic / positive / cheerful
41. self-control
42. self-esteem
43. humor
44. spirituality
45. wellbeing
46. quality of life
47. work-life balance

RQ2: Model validation

Internal validation

	General eustress	Goal-directed action	Momentary experience	Stable qualities
Cronbach's alpha (α) Test reliability	.96	.93	.92	.89
Omega hierarchical (ω_h) Variance expl. by general factor	.85			
Item-total correlations Discriminatory power	.40	.47	.45	.57

(Flora, 2020; Reise et al., 2010)

External validation

General eustress

9. excited/ enthusiastic	.61	
28. compassion/ empathy	.38	
25. good relationships	.58	
27. sharing	.51	
26. healthy attachments	.60	
33. tolerance/ acceptance	.58	
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20. flow	.68	
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37. resilience	.57	
40. optimistic/ positive/ cheerful	.78	
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46. quality of life	.70	

Spearman correlations

✕

> **Perceived Stress Scale**

E.g.: In the last month, how often have you been upset because of something that happened unexpectedly?

−.50***

✕

> **European Social Survey Wellbeing Module**

E.g.: Taking all things together, how happy would you say you are?

.62***

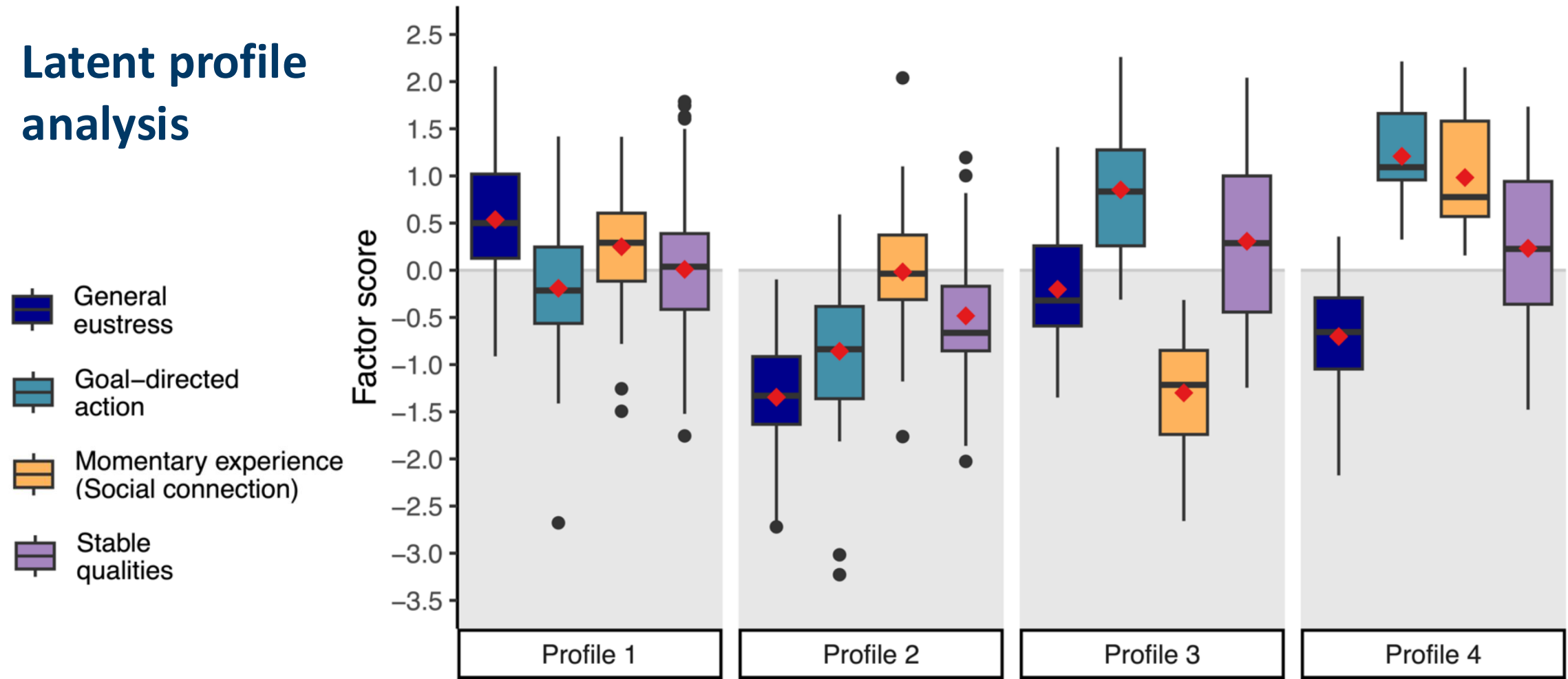*(Cohen et al., 1983; Huppert & So, 2013)*

RQ3: Identifying individuals with distinct eustress profiles

Latent profile analysis

= unsupervised clustering of participants across their factor scores of the best-performing model (bifactor)

- Compared solution with 2 to 6 clusters
- Best fitting model: 4-cluster solution

Latent profile analysis

	Profile 1	Profile 2	Profile 3	Profile 4
N	152	42	45	22
Female (%)	44.74	47.61	46.67	81.82
Mean Age (years)	44.85	42.19	46.93	42.68
	Eustress generalists	*Eustress minimalists*	*Eustress achievers*	*Eustress specialists*

Legend:
- General eustress
- Goal−directed action
- Momentary experience (Social connection)
- Stable qualities

Multinomial logistic regression

- = systematic individual differences between clusters
- Determine odd ratio (OR) of someone with a certain characteristic being assigned to a cluster compared to a reference profile
- Predictors entered: socio-demographics, personality, distress, wellbeing

Eustress generalists

Eustress minimalists

Eustress achievers

Eustress specialists

Profile 1	Profile 2	Profile 3	Profile 4

Reference profile for odd ratios

Openness: 0.51*
Wellbeing: 0.25**

Emotionality: 0.58*
Agreeableness: 0.52**

Male: 0.10**

Key takeaways

The Comprehensive Hierarchical Eustress Review (CHER) is the first psychometric instrument to comprehensively assess positive experiences across challenging situations in a general UK adult population.

- RQ1: Psychometric structure of eustress supports existing theory
  - ➤ Assess factor structure and central items of eustress in real-life situations

- RQ2: Eustress positively related to wellbeing and negatively to distress
  - ➤ Establish whether increasing eustress causally increases wellbeing and causally decreases distress

- RQ3: Identifying clusters of individuals with distinct eustress profiles can support developing tailored policy interventions
  - ➤ Tailored interventions to maximise eustress in particular segments of the population

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What shapes our positive experiences of challenging situations?

I am looking forward to hearing from you!

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