Development and Validation of the Social Thermoregulation, Risk Avoidance, and Eating Questionnaire - 2 (STRAEQ-2)

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4. A collective of 152 authors at 115 universities;
5. Institut Universitaire de France (IUF), France

Outline of the presentation

- Environmental threats and how we cope with them shapes personality
- Collaboration to generate and select the items of the scale
- Planned analysis: hold-out strategy (exploratory/confirmatory)
- Futur of the project

Personality

The Big-5 model of personality (Fiske, 1949)

Our general premise is that environmental threats shapes personality

Measure individual differences in the way people cope with the environment

Basic environmental threats

Fluctuation in temperatures:

Maintain one's internal temperature within a comfortable range

Physical threats:

Avoid predators or people who want to do you harm

Lack of food:

Preventing starvation

Theoritical background

People's personalities are shaped by environmental demands:

- *Personality and the adaptive landscape (Buss, 2010)*
- *"Clement" climates and the Big Five (Wei et al., 2017)*

Hypersocial species can socially distribute threats on others:

- *Less costly for our brain and metabolism (e.g., Beckes & Coan, 2011)*

Attachment (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011):

- *Two continuous dimensions (from low to high): avoidance and anxiety*

Previous work

Using a validated 23 items scale (STRAQ-1) Vergara et al., (2019) showed that:

- ***Attachment anxiety*** *was positively linked to* ***solitary thermoregulation****.*
- ***Attachement avoidance*** *was negatively linked to* ***social thermoregulation****.*

Goals

Develop and validate the STRAEQ-2 (Social Thermoregulation, Risk Avoidance, and Eating Questionnaire)

1) *Individual differences in basic needs*
2) *Sensitivity, solitary or social regulation of the need, and confidence that others will help*
3) *Explore the link with attachment*

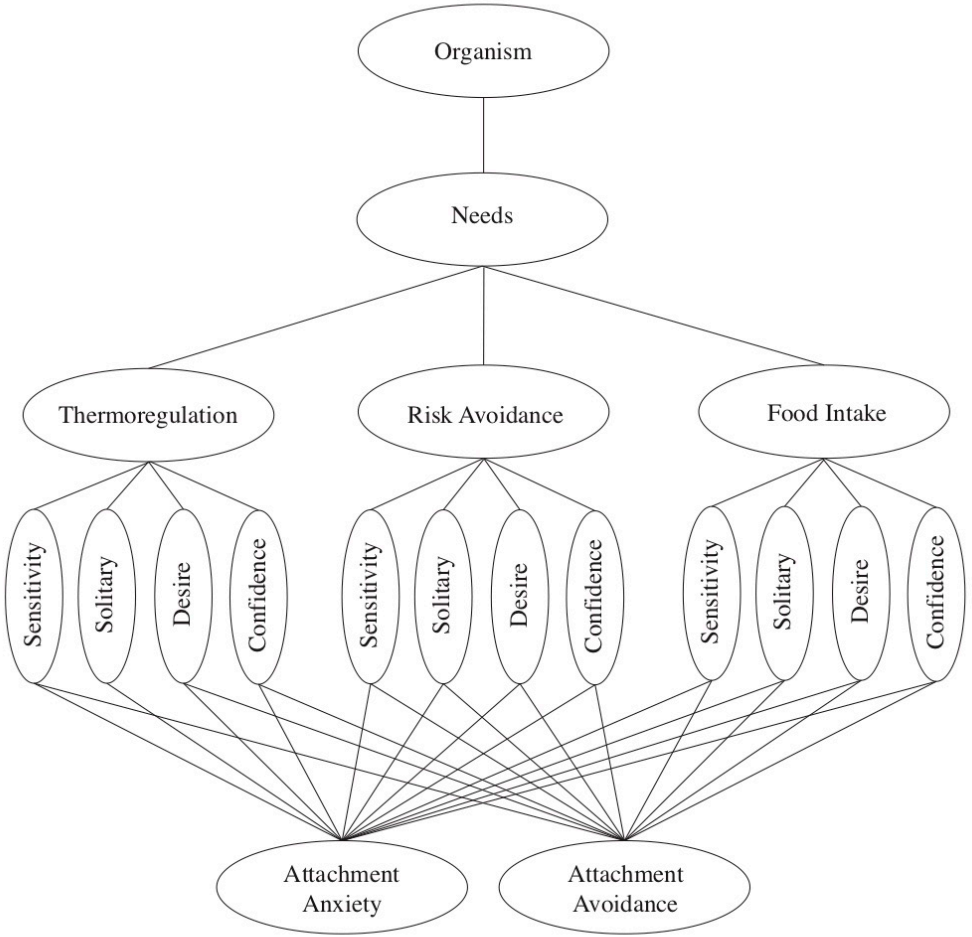
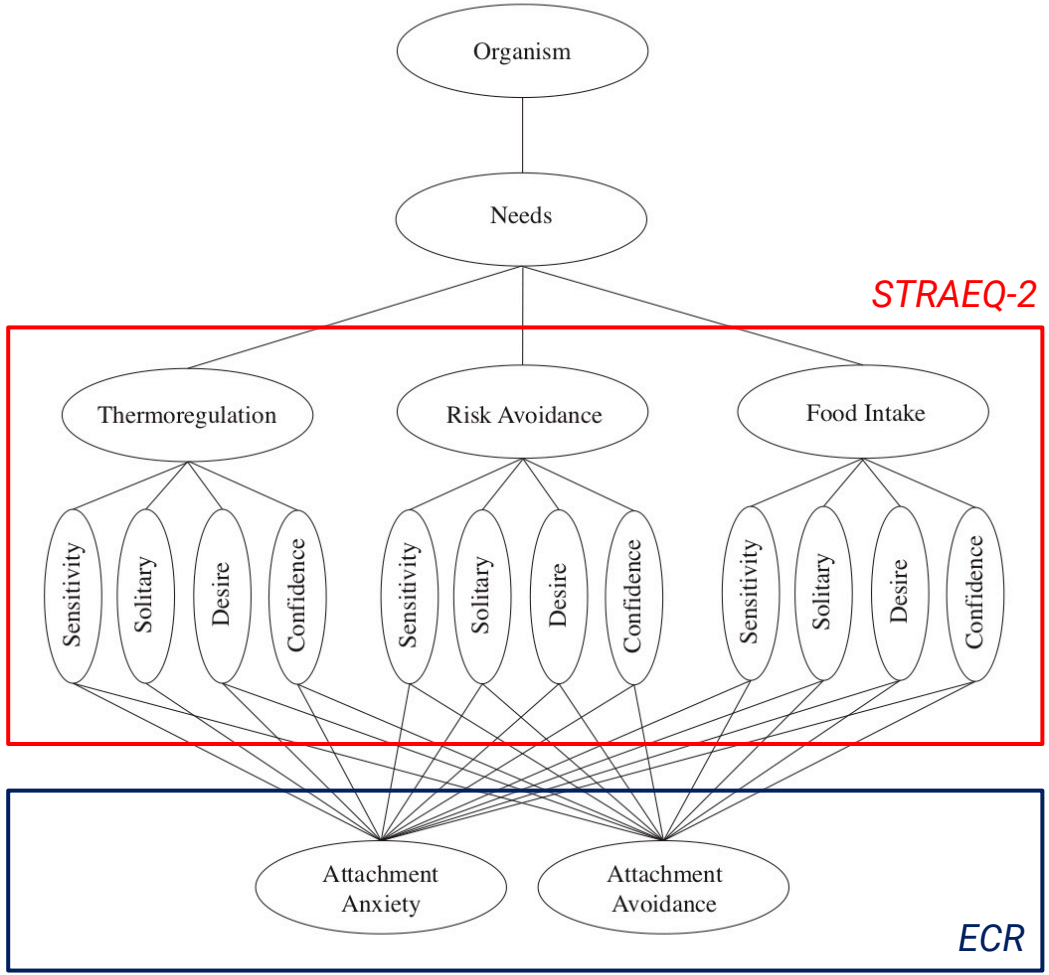


Fig 1. *STRAEQ-2 a priori expected structure.*


Organism
Needs
STRAEQ-2
Thermoregulation
Risk Avoidance
Food Intake
Sensitivity
Solitary
Desire
Confidence
Sensitivity
Solitary
Desire
Confidence
Sensitivity
Solitary
Desire
Confidence
Attachment Anxiety
Attachment Avoidance
ECR

Item generation and selection

First step: item generation

We gave collabors (152 authors at 115 universities):

- **a description of each construct**
- **example items**

For them to generate items suitable for their culture.

In total 53 laboratories from 32 countries generated 737 items.

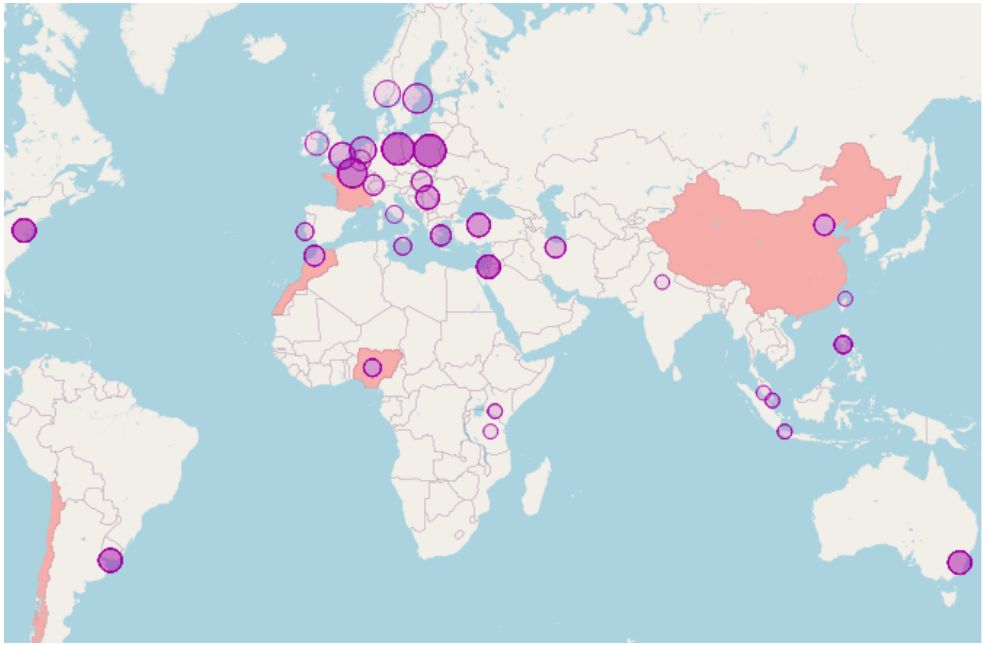


Fig 2. *World map of the country that generated the STRAEQ-2 items*

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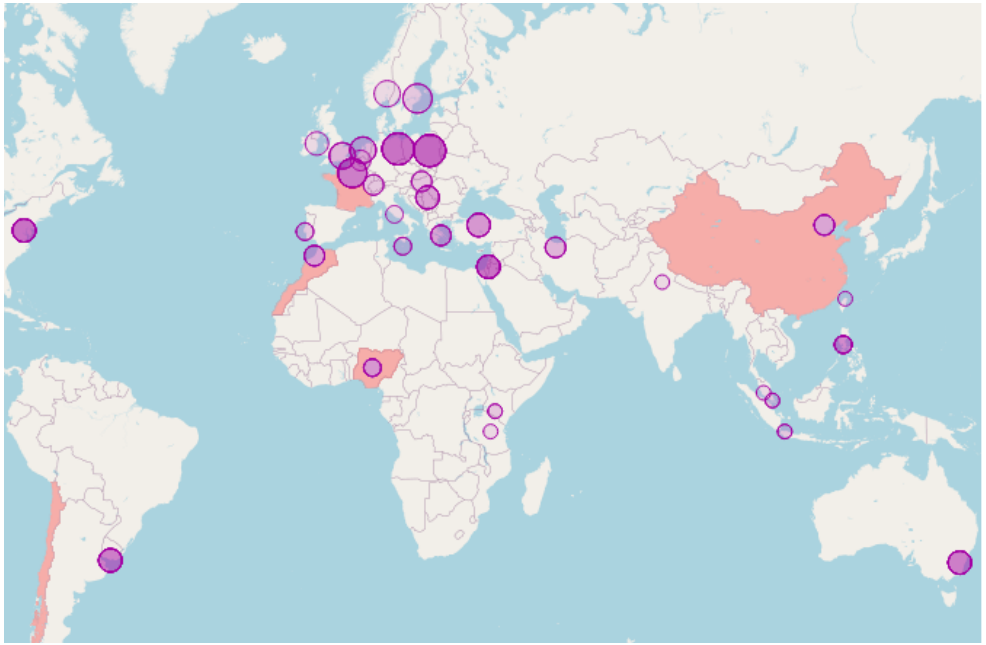
Second step: item selection

A **diverse advisory committee** rated to what degree the items were representative of the construct.

We kept the **10 highest means and lowest standard deviation** items per subscales.

We replaced closely related items (~5 per subscales) to get a **wider range of behaviors**.

STRAEQ-2 scale: 120 items (10 per subdimension)



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Second step: item selection

STRAEQ-2 scale: 120 items (10 per subdimension)

Table 1. Examples of STRAEQ-2 items.

item	country	subscale
At a restaurant, I like ordering food that can be shared with close others at the table.	Iran	Food_desire_subscale
When I feel cold, I like to be hugged.	Germany	Temperature_desire_subscale
I feel that I can always cuddle with my partner, when I feel too cold at home.	Sweden	Temperature_confidence_subscale
When I am in a stressful situation, I prefer to resolve it myself.	Philippines	Risk_solitary_subscale

Analysis Plan

Goals of the analysis

To discover the **latent factors** of the STRAEQ-2 (is the a priori defined structure the right one) **across different countries**, via:

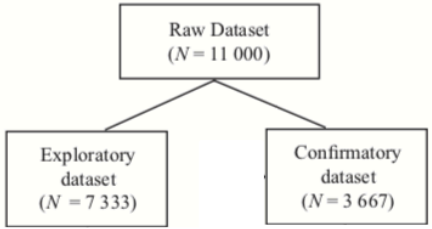
a) **prediction** of a nomological network,

b) **measurement equivalence** according to **theoretically meaningful strata** (choosing the strata that allow the best fit),

c) whatever is the most **parsimonious model**,

d) using an **exploratory/confirmatory analysis strategy**.

Goals of the analysis

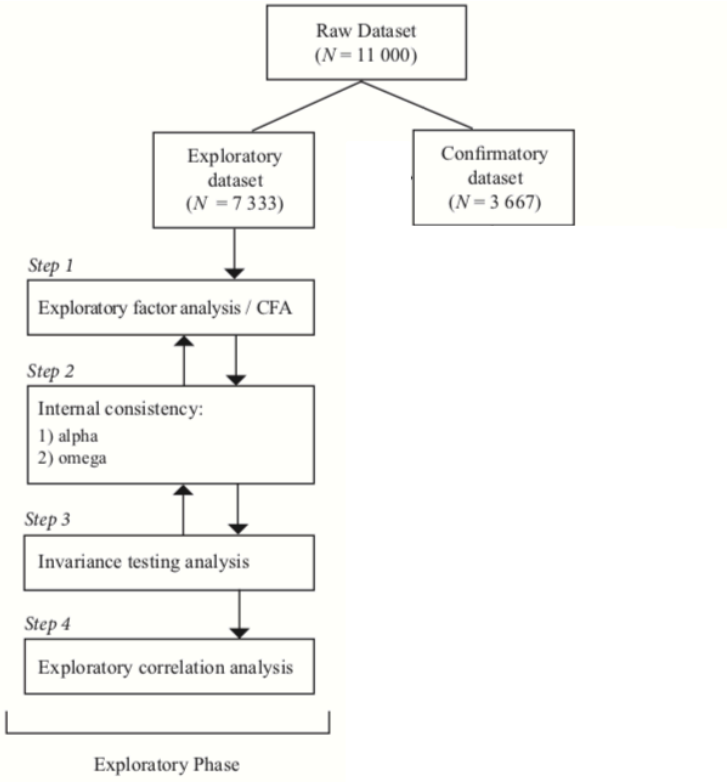


STRAEQ-2 hold-out analysis strategy:

1) ***exploratory phase*** *on a 2/3 split of the dataset,*

2) a pre-registered confirmatory phase *on an unseen remaning 1/3 of the dataset.*

Goals of the analysis



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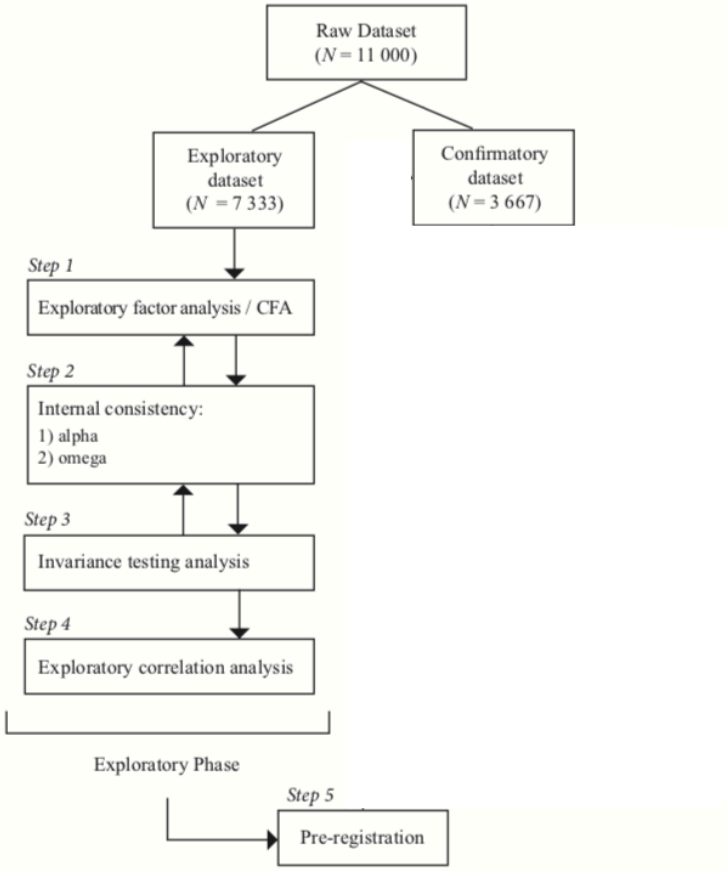

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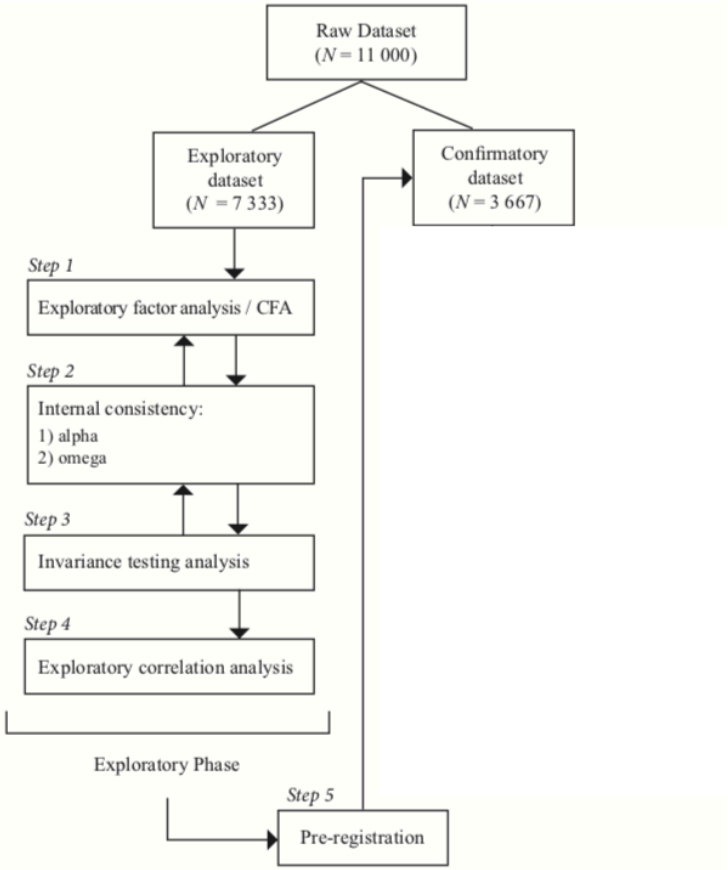

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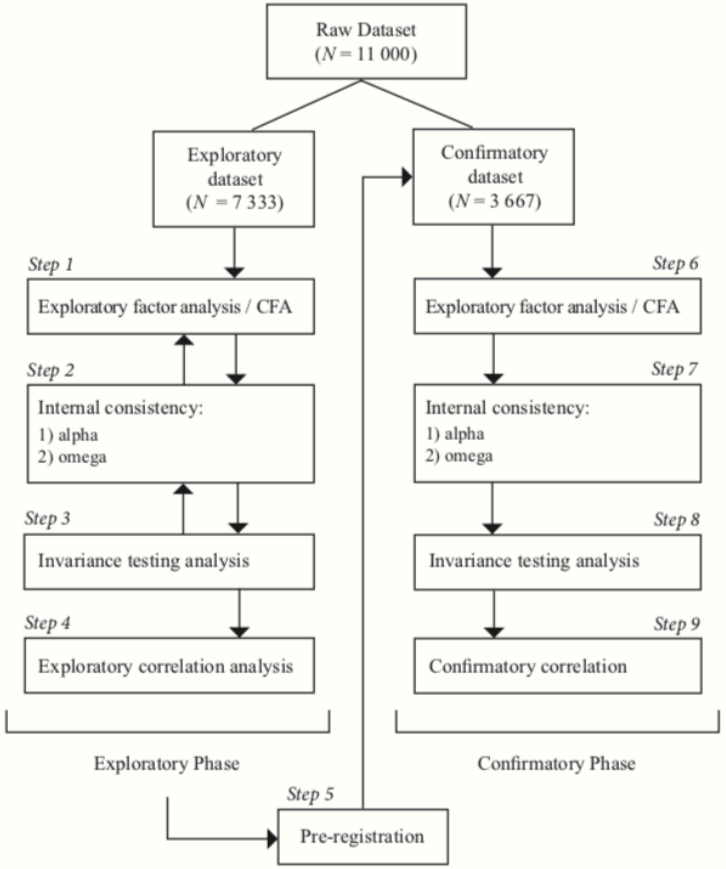

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Exploratory/confirmatory approach

We start with principles that are not precise prediction from theories

1

Data driven approach

Hold-out strategy (2/3)

exploratory analysis

2

More precise hypotheses

Sharpen our a priori defined principles

Find the correct version the model

3

Test our model

Confirmatory methods (1/3)

Validate model

Next steps

Data collection

- 4 sites to pilot test the survey, and the clarity of the items
- ~11 000 participants across the globe
- 115 sites in 44 countries
- 376 individual items (~65 mins)

Joining the project

- IRB submission pack (if necessary) OSF page of the project: osf.io/ghbzk/
- Translation if necessary (translation back-translation)
- *N* = ~100 participants per laboratories
- Autorship (tiers list and CRediT taxonomy)

Research workflow: CRediT system

- **Autorship**

Tier 1 – *Leardership borad*

Tier 2 – *Advisory committee, data collection & scale development – random order*

Tier 3 – *Data collection only – random order*

- **Contributorship**

CRediT

(Contributor Roles Taxonomy)

Unnamed: 1	Contributor
Task	
Conceptualization	
Data curation	
Formal analysis	
Funding acquisition	
Investigation	
Methodology	
Project administration	
Resources	
Software	
Supervision	
Validation	
Visualization	
Writing - original draft	
Writing - review & editing	

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Leadership board

Project Manager	Analysis and Data Manager	Ethics Manager	Translation Manager
Coordination of The teams • *Write the article* • *Manage teams* • *Checks progress* • *Milestones*	Theoretically Informed Clusters • *Climate level* • *Physical security* • *Access to food* Three Advisors Invariance analysis	Data Protections • *GDPR guidelines* • *De-identified data* • *Within te EU* RIB template in english to be adapted at sites	Translation Back translation • *2 translators* • *collaboration*

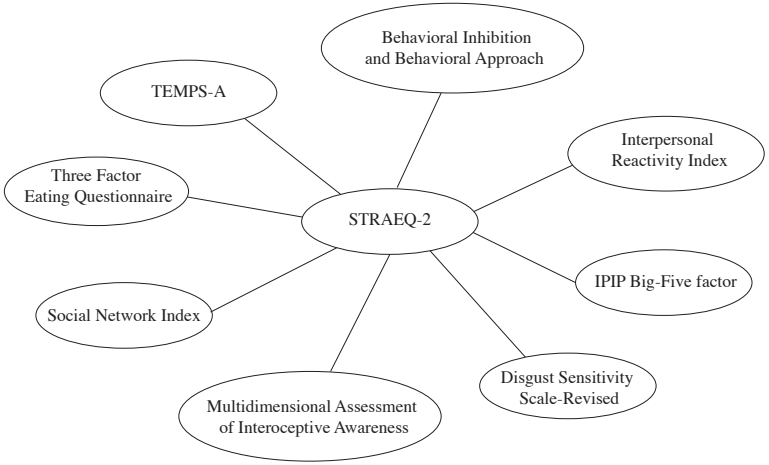
In addition

Validation tests of questionnaires

- *For different cultures/languages*
- *Providing translated versions of these tools*
- *Test the generalizability*

(e.g., Ghana, Saudi Arabia, Malasya, Tanzania)

Openly available to other researchers (OSF)



In addition

Additional data via data harvesting:

- *Collect climatic data from the Dark Sky weather forecasting API*
- *Pathogen prevalence*
- *GDP of the region and of the country*
- *Homicide of the region and of the country of that year*
- *Education of the region and of the country of that year*
- *Location of participant childhood (e.g., attachment)*

Reuse of the dataset

Future of the project

Is network analysis better than factor analysis?

Can the same concept be represented by scales containing different items?

Find and provide new statistical tools

Summary of the project

A scale with globally generated items

Measure individual differences in coping with the environment

Linked to individuals differences in attachment

Thank you!

Please send me your feedback or questions.

Email: dujols.ol@gmail.com

https://corelab.io

Co-Regulation (CORE) Lab.

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