

## Abstract

**Background:** Carrière et al. (2021) developed the FFaMES as a measure to assess mindful eating. The FFaMES addresses the limitations of former scales and provides a psychometrically robust and comprehensive assessment of mindful eating. Appropriate translations of the scale are warranted to increase its accessibility to non-English speaking populations. **Methods:** Forward and back translations were conducted, and a committee approach was used throughout the translation process. The FFaMES-F, the FFMQ and the DEBQ were administered to validate the translation and assess its convergent and discriminant validity. **Results:** Results of the CFA suggest adequate model fit for the four-factor solution ( $\chi^2(371) = 1051.90$ ,  $p < .001$ , RMSEA = 0.07, 90 % CI [.068, .078], CFI = 0.90, TLI = 0.89, SRMR = 0.08). Similar patterns of association were found between the original scale, the FFaMES-F and included measures. **Conclusion:** The present data supports a four-factor model of the translated FFaMES-F and demonstrates good construct validity.

## Background

- Mindful eating has gained popularity as a tool for managing obesity.<sup>1</sup>
- Mindful eating can be theorized as including two fundamental facets. The first facet is **attention**, which consists of an individual's ability to bring present-centered awareness towards eating-related experiences. The second facet is **attitude**, which consists of an individual's ability to defuse from negative-self judgment and food-related cravings in a manner that is accepting and equanimous.<sup>2</sup>
- Previous mindful eating questionnaires assess attention and do not efficaciously assess the attitudinal features of mindful eating.<sup>3</sup>
- The Four Facet Mindful Eating Scale (FFaMES) was therefore developed to address this limitation of content validity of former scales and to provide a more comprehensive assessment of mindful eating.

**Research Goal:** The purpose of the present study was to develop and to evaluate the psychometric properties of the French version of the FFaMES.

## Hypotheses

The present study was intended to evaluate the latent structure of the translated scale by **(1)** conducting a confirmatory factor analysis to assess factorial validity; **(2)** evaluate the internal consistency and distributional normality of the translated subscales; and **(3)** evaluate the convergent and divergent validity of the translated measure.

## Participants

**Sample size:**  $N = 480$

- Online research platform 'Asking Canadians'

**Inclusion criteria:**

- French-speaking adults
- From Quebec

Table 1. Demographics

Characteristics	Unit of Measurement
Age	$M = 50.84$ $SD = 19.49$
Gender	$N$ Females = 264 $N$ Males = 216
BMI	$N$ Normal Weight = 169 $N$ Overweight & Obese = 311

## Methods & Measures

- In accordance with recommendations for transcultural validation of psychometric instruments, forward and back translations were conducted on the questionnaire by bilingual experts, and a committee approach was used throughout the translation process.

The French Four Facet Mindful Eating Scale (FFaMES-F)<sup>3</sup>:

- **The FFaMES-F:** is a 29-item self-report measure that assesses four facets of mindful eating.
- **Used to assess structural validity:** a confirmatory analysis (CFA) was conducted to test the factorial validity of the FFaMES-F.

The French Five Facet Mindfulness Questionnaire (FFMQ)<sup>4,5</sup>:

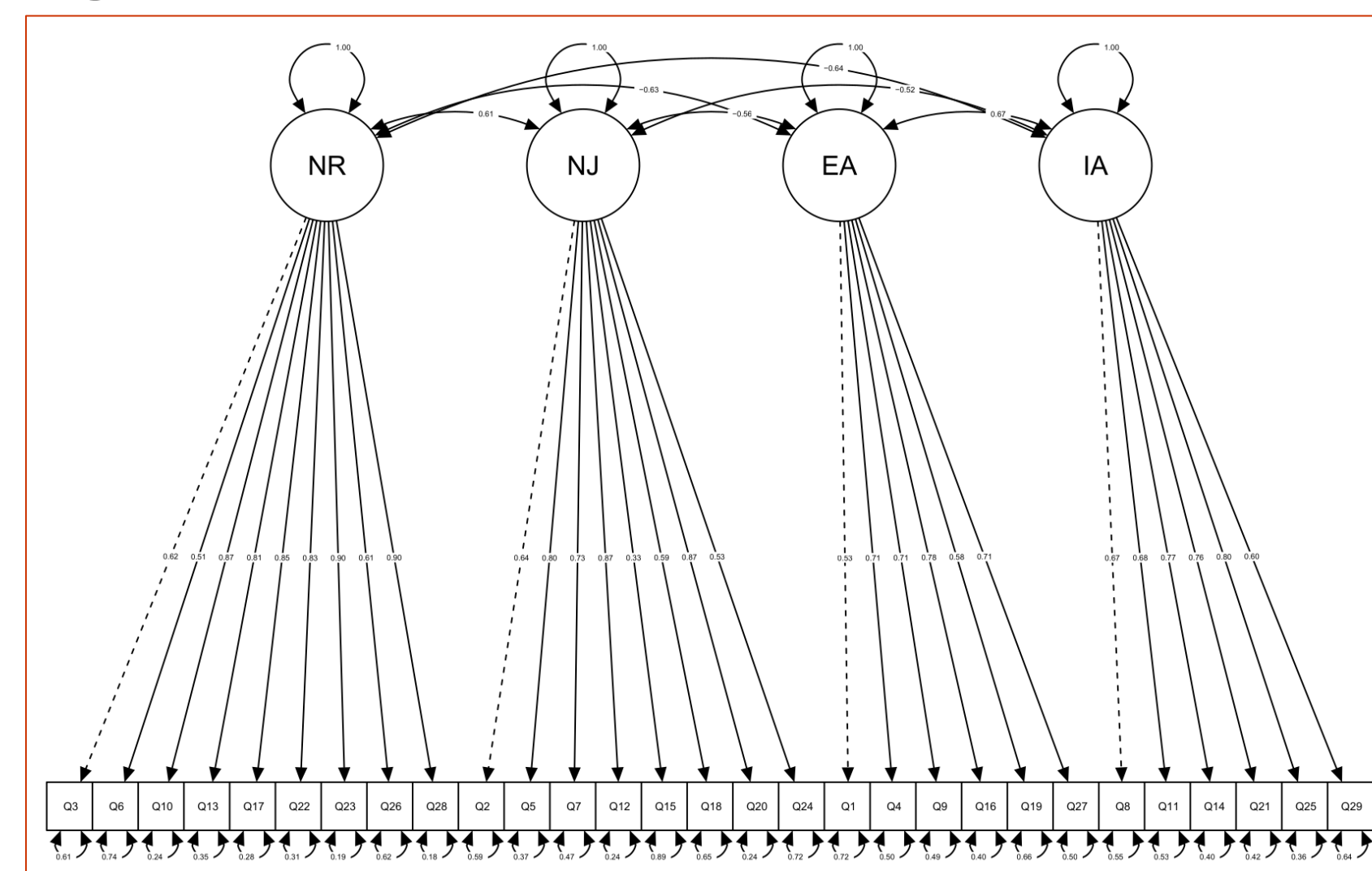
- **The FFMQ:** is a 39-item self-report measure that assesses five dimensions of dispositional mindfulness.
- **Used to assess convergent validity:** individuals who score high on the French FFMQ were expected to also score high on the FFaMES-F.

The French Dutch Eating Behaviour Questionnaire (DEBQ)<sup>6,7</sup>:

- **The DEBQ:** is a 33-item self-report measure that assesses three dimensions of obesity-related eating behaviours (i.e., emotional eating, external eating, restrained eating).
- **Used to assess construct validity:** individuals who score high on the attention facets of the FFaMES-F would also score high on the DEBQ, and those who score high on the attitudinal facets of the FFaMES-F would score low on the DEBQ.

## Results

Figure 1. CFA Model



- A confirmatory analysis (CFA) was conducted to test the factorial validity of the French translation of the FFaMES.
- Results of the CFA suggest adequate model fit for the four-factor solution ( $\chi^2(371) = 1051.90$ ,  $p < .001$ , RMSEA = 0.07, 90 % CI [.068, .078], CFI = 0.90, TLI = 0.89, SRMR = 0.08). The model is displayed in Figure 1.

**Internal Consistency:**

Cronbach's alpha for FFaMES-F: NR = .93, NJ = .87, EA = .83, IA = .86

**Convergent Validity:**

The FFaMES-F subscales and the FFMQ subscales were correlated.

Table 2. Correlation Coefficients between the FFaMES-F and FFMQ

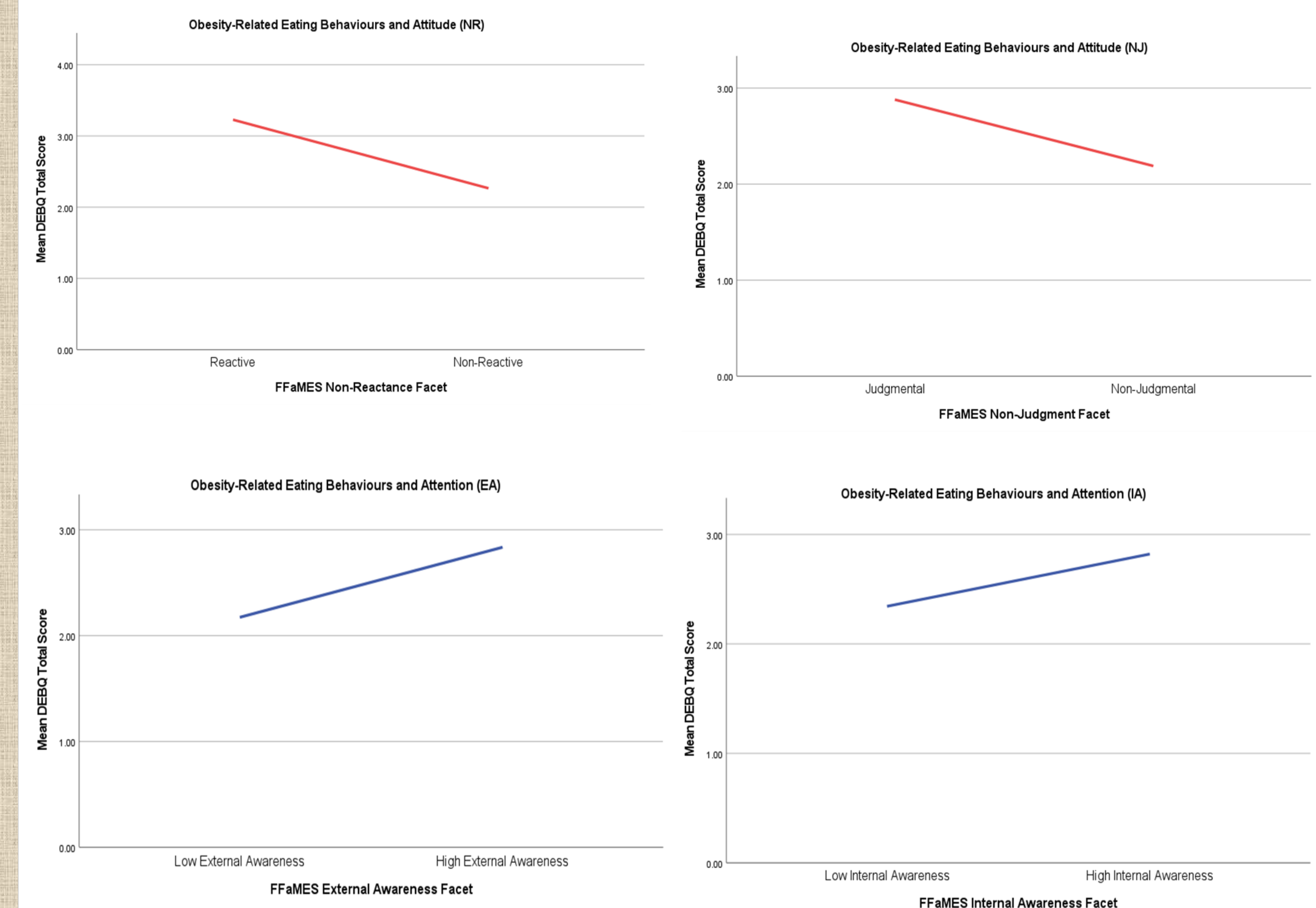
Variable	FFaMES-F Facets			
	NR	NJ	EA	IA
FFaMES-F NR	1.00	.61**	-.63**	-.63**
FFaMES-F NJ		1.00	-.55**	-.53**
FFaMES-F EA			1.00	.60**
FFaMES-F IA				1.00
FFMQ Observe	-.15**	-.24**	.29**	.44**
FFMQ Describe	.11*	.04	-.002	.14**
FFMQ Awareness	.37**	.28**	-.35**	-.28**
FFMQ Not Judge	.33**	.47**	-.32**	-.29**
FFMQ Not React	.23**	0.1	-.02	-.06

Note. The presented associations of study measures reflect bivariate correlations. \* $p < .001$ ; \*\* $p < .01$

## Results cont.

**Construct Validity of the FFaMES-F:**

- As predicted, the FFaMES-F demonstrates a clear distinction between the attention and attitude components of mindful eating.
- The *attitude facets* of the FFaMES-F (Non-Reactance and Non-Judgment) were negatively correlated with obesity-related eating behaviours.
- While the *attention facets* of the FFaMES-F (External and Internal Awareness) were positively correlated with obesity-related eating behaviours.



## Discussion

- As hypothesized, the confirmatory factor analysis supported the original four-factor model in a French-speaking sample.
- The FFaMES-F demonstrated a clear distinction between the attention and attitude components of mindful eating.
- The French version of the scale demonstrated good internal consistency and construct validity.
- Future research should assess the test-retest reliability of the scale as well as the scale's construct validity with other measures of eating behaviours and health-related outcomes.

## Conclusions

- The FFaMES-F shows promise as a tool for clinical practice and empirical research to assess mindful eating and its relationship with obesity-related eating behaviours.

### References

1. Winkens, L. H., van Strien, T., Barrada, J. R., Brouwer, I. A., Penninx, B. W., & Visser, M. (2018). The Mindful Eating Behavior Scale: Development and psychometric properties in a sample of Dutch adults aged 55 years and older. *Journal of the Academy of Nutrition and Dietetics*, 118(7), 1277-1290. <https://doi.org/10.1016/j.jand.2018.01.015>
2. Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230-241. <https://doi.org/10.1093/clipsy.bph077>
3. Carrière, K., Shireen, S. H., Siemers, N., Preissner, C. E., Starr, J., Falk, C., & Knäuper, B. (2021). Development and validation of the Four Facet Mindful Eating Scale (FFaMES). *Appetite*, 105689. <https://doi.org/10.1016/j.appet.2021.105689>
4. Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., ... & Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, 15(3), 329-342. <https://doi.org/10.1177/21073191107313003>
5. Heeren, A., Douilliez, C., Peschard, V., Debrauwere, L., & Philippot, P. (2011). Cross-cultural validity of the Five Facets Mindfulness Questionnaire: Adaptation and validation in a French-speaking sample. *European Review of Applied Psychology*, 61(3), 147-151. <https://doi.org/10.1016/j.erap.2011.02.001>
6. van Strien, T., Frijters, J. E., Bergers, G. P., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders*, 5(2), 295-315. [https://doi.org/10.1002/1098-108X\(198602\)5:2%3C295::AID-EAT2260050209%3E3.0.CO;2-T](https://doi.org/10.1002/1098-108X(198602)5:2%3C295::AID-EAT2260050209%3E3.0.CO;2-T)
7. Lluich, A., Kahn, J. P., Stricker-Krongrad, A., Ziegler, O., Drouin, P., & Méjean, L. (1996). Internal validation of a French version of the Dutch Eating Behaviour Questionnaire. *European Psychiatry*, 11(4), 198-203.