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Interoceptive Abilities, Body Perception and Eating Behaviors in Adult Women

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Introduction

Anorexia Nervosa (AN) is a common eating disorder and can be accompanied with body dysmorphic disorder (BDD). This comorbidity causes a distortion of the body image perception. This research aimed to investigate the impact of this external distortion on the awareness of sensations coming from inside the body corresponding to interoceptive sensibility. <u>Objectives of the current study :</u> (1) Examine the **interoceptive abilities** of adult women presenting AN with or without BDD comorbidity as compared to healthy women. *Hypothesis :* we expected no significant difference between our groups for interoceptive accuracy but higher scores for interceptive sensibility for AN patients with BDD comorbidity (AN_BDD). (2) Investigate their **emotion recognition** abilities and the correlation between interoceptive and emotional abilities. *Hypothesis :* we expected higher response time and lower scores in AN_BDD group for social cognition battery subtests.

Results

- Strong correlation between BDDQ scales and EAT-26 scores (*ρ*=.709 ; *p*<.001) (*ρ*=.710 ; *p*<.001)
- No differences between our groups for interoceptive 0 accuracy and awareness
- **BUT significant higher scores at the MAIA-FR scale** Ο



(interoceptive sensibility) in **control group** compared to AN_BDD group (*F*(2, 18)=4.238, *p*<.05) (*figure below*)



- **Positive correlation** between **MAIA-fr scores** and **BCS**identification scores (emotion recognition) in AN_BDD
 - **group** (*ρ*=.76 ; *p*<.05)
- Linear regressions showed a **prediction value** of **BDDQ**-**YBOCS scores** on **response time in BCS-intensity** (ß =-64.188; t=-2.591; p<.05) with a predictability rate of 21.53%
- **AN_BDD group** showed statistically significant **higher** scores of alexithymia in TAS-20 compared to control group (*F*(2,18)=9.310 ; *p*<.05) (figure below)



Conclusion

This research enhanced the impact of the presence of BDD comorbidity in AN as follows : lower interoceptive sensibility abilities in AN subjects with BDD **comorbidity** compared to control subjects, as well as a **weakness in identifying** and expressing one's emotions. These results differ from similar studies on AN patients, showing the **importance of identifying a possible presence of body** depreciation symptoms. For the future, interoception in AN patients with BDD shall also be further studied in regard with the hunger perception and the ability to inhibit it. The method used should therefore allow to objectify gastric interoception.

REFERENCES

Datta, N., Bidopia, T., Datta, S., Mittal, G., Alphin, F., Herbert, B. M., Marsh, E. J., Fitzsimons, G. J., Strauman, T. J., & Zucker, N. L. (2021). Internal states and interoception along a spectrum of disorder symptomology. *Physiology & Behavior*, 230, 113307. eating https://doi.org/10.1016/j.physbeh.2020.113307

Ernst, J., Böker, H., Hättenschwiler, J., Schüpbach, D., Northoff, G., Seifritz, E., & Grimm, S. (2014). The association of interoceptive awareness and alexithymia with neurotransmitter concentrations in insula and anterior cingulate. Social Cognition & Affective Neuroscience, 9(6), 857-863. doi:10.1093/scan/nst058

Garfinkel, S. N., & Critchley, H. D. (2013). Intéroception, emotion and brain: New insights link internal physiology to social behaviour. Commentary on: "Anterior insular cortex mediates bodily sensibility and social anxiety" by Terasawa & al. (2012). Scan, 8(3), 231–234. https://doi.org/10.1093/scan/nss140

Risso, G., Martoni, R. M., Erzegovesi, S., Bellodi, L., & Baud-Bovy, G. (2020). Visuo-tactile shape perception in women with Anorexia Nervosa and healthy women with and without body concerns. *Neuropsychologia*, 149. <u>https://doi.org/10.1016/j.neuropsychologia.2020.107635</u>