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PhD in Gerontology  
2021-2022

INVITATION to the Public defence of

**Axelle COSTENOBLE**

To obtain the academic degree of

**'DOCTOR OF GERONTOLOGY'**

**The complex relationship between frailty and daily functioning, and the influence of social participation and psychological resilience in the oldest old**

The public defence will take place on

**Thursday, 25 August 2022 at 5 p.m.**

In Auditorium **Piet Brouwer**

Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

**and can be followed online**, accessible through the following link:

[https://gf.vub.ac.be/redirects/PhD\\_defense\\_Axelle\\_Costenoble.php](https://gf.vub.ac.be/redirects/PhD_defense_Axelle_Costenoble.php)

## Summary of the dissertation

This thesis contributed to the gap in research concerning the complex relationship between frailty and ADLs in community-dwelling octogenarians. In addition, social participation and psychological resilience were investigated. Therefore, different methods were used: a systematic review, 3 cross-sectional studies, and finally a longitudinal study. Firstly, the systematic review indicated that more than half of the 217 frailty instruments contained ADL items, specifically b-ADLs. The concepts ADLs and frailty are thus to date more complex and intertwined than generally expected which could result in problems of circular reasoning. Secondly, using the typology of b-, i-, and a-ADLs and prefrailty, two cross-sectional analyses showed that limitations in a-ADLs were associated with prefrailty, which was not the case for limited social participation and lower psychological resilience in community-dwelling octogenarians. Therefore, it might be interesting to evaluate a-ADLs to identify frailty. Next, a prospective longitudinal study of one year follow-up data found that limitations in a-ADLs were predictors of a worsened frailty transition. Together with 'being a woman' and 'becoming a board member', a-ADLs could be protectors of frailty. Building on the two previous classifications of Hoogendijk et al. (2019) and Zamudio-Rodriguez et al. (2020), a new theoretical model might emerge by adding limitations in a-ADLs as possible predictors of (pre)frailty and frailty. Finally, in a cross-sectional during the COVID-19 lockdown, the engagement in meaningful activities explained a decrease in QoL, together with the experience of emptiness in life, the use of medication, and the feeling of depression. Understanding which components contribute to and which might affect a person's QoL of the oldest old could be a fundamental issue showing that meaningful activities could be essential to a person's QoL. From all this research, it is recommended to (i) choose a frailty instrument that does not include b-ADLs when investigating them as negative health outcome, and (ii) encouraging meaningful activities to promote healthy lifestyle behaviours in the oldest old to target frailty.

## Curriculum Vitae

Axelle Costenoble was born in Ghent on the 8th of January 1994. In 2015 she studied and completed the Bachelor Nutrition and Dietetics with distinction at the University of Applied Sciences and Arts (HOGENT) in Ghent. During her studies, she finished her bachelor's thesis titled 'The influence of insulin resistance in post-menopausal breast cancer' during an internship abroad at Stellenbosch University in South Africa, for which she won the Novo Nordisk Award at the 18th Diabetes Symposium in Ghent. While commuting to London (UK) for private life, she graduated with great distinction as a gerontologist in the MSc in Gerontological Sciences at the Vrije Universiteit Brussel in 2017. From 2017 until 2022, she worked as a PhD student at the Frailty in Ageing research group in the Brussels Study on the Early Predictors of Frailty (BUTTERFLY) under the supervision of Prof. Dr. Patricia De Vriendt, Prof. Dr. Ellen Gorus, and Prof. Dr. Dominique Verté focussing on the role of activities of daily living, psychological resilience, and social participation in the prevention of (pre)frailty in the oldest old. In June 2022 she started working at vzw Zorg-Saam ZKJ where she will be working on innovation, quality, and projects.