

NONTRADITIONAL PATHS TOWARDS SUCCESSFUL LIFE OUTCOMES: PILOT STUDY ON CORTISOL MEASUREMENT BY HAIR SAMPLING

LAURENCE TRUDEAU,¹ LAETITIA GENDRON,¹ SHANEHA PATEL,² CATHERINE CIMON-PAQUET,¹ MARIE-HÉLÈNE VÉRONNEAU,¹ DALE STACK² AND LISA SERBIN²

INTRODUCTION




Why add a hair cortisol measure?

This is a prospective, longitudinal multi-sample approach

- Important to incorporate biomarkers in stress measurement (Wright et al., 2015)
- Gives information on participants stress on a longer period of time
- New methodological approach
- New research for this lab
 - Important in the post-pandemic context (needs to be minimally controlled for)

1- University of Quebec in Montreal
2- Concordia University

Educational Pathways and Social Influences Laboratory
Psychology Department, University of Quebec in Montreal
laurence.trudeau.2@courrier.uqam.ca

LĚPSIS www.lepsis.uqam.ca  @lepsislab
 @lepsis_uqam  @lepsis_uqam

SAMPLES

This multi-sample longitudinal project includes :

- 1) Participants recruited in the late 1970s (ages between 50 and 60 y/o)
- 2) Children of the first sample (ages between 20 and 30 y/o)
- 3) Young adults recruited in high school between 2013-2015

Recruited to date (all from sample 1)

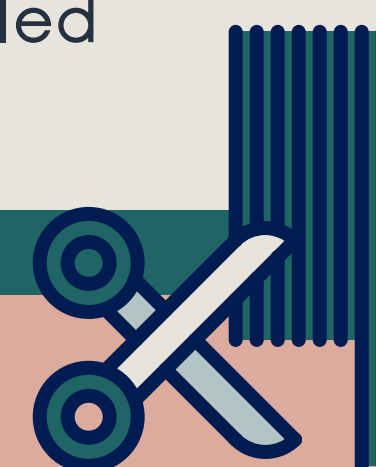
- 48 women et 16 men (N = 64)
- Age average = 55.13 (SD = 2.43)



METHODOLOGY

Procedure

- Ongoing data collection (started in February 2022)
- Self-reported online questionnaire which includes :
 - **Perceived Stress Scale** (Cohen et al., 1983; Lee, 2012)
 - Questions on **Negative experiences during the pandemic** regarding :
 - Financial impact
 - Fear of COVID-19
 - Health problems
 - **Beck Anxiety and Depression Inventories** (Beck et al., 1996; Beck & Steer, 1993)
 - Question on **Psychosocial adjustment** :
 - Diener's Life Satisfaction Scale (1985)
 - Satisfaction at work (Bérubé & al., 2016)
 - Satisfaction in family life (Zabriskie & Ward, 2013)
 - Civic engagement scale (Vézina & Poulin, 2019, 2020)
- Hair sample collected at home by themselves
 - **Hormonal measures** : extracted from hair samples in an external laboratory specialized in hormonal analyses
 - Cortisol



ANALYSIS

The objectives of the analysis are to examine associations between levels of cortisol and :

- a) Subjective stress
- b) Participant's negative experiences during the pandemic, their anxiety and depression symptoms
- c) Measures of psychosocial adjustment
- d) Participant's risk factors documented in past data collections

Upcoming analyses

CONCLUSION

Knowing that this population grew up in situations of socioeconomic vulnerability, this pilot study will hopefully:

- Help identify effective coping mechanisms to protect against stress effects on their mental health and social adjustment (Ferro & Gonzalez, 2020; Ursache et al., 2017)
- Give recommendations on services and programs to be offered to promote the resilience of vulnerable populations

ACKNOWLEDGMENTS

We would like to thank the participants, our lab members, and the Nontraditional paths project staff for their contributions to this project. We also thank our funders.

UQAM | Faculté des sciences humaines
Université du Québec à Montréal

UQAM | Université Concordia

SSHRC | CRSH
Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada

Fonds de recherche
Société et culture
Québec

Fonds de recherche
Santé
Québec

Équipe de compétence
émotionnelle
Emotional Competence
Team

Beck AT, Steer RA, Brown GK. Manual for the Beck Depression Inventory-II. San Antonio (TX): Psychological Corp; 1996
Beck, A.T., & Steer, R.A. (1993). Beck Anxiety Inventory Manual. San Antonio, TX: Psychological Corporation.
Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396. <https://doi.org/10.2307/2136404>
Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
Ferro, M. A., & Gonzalez, A. (2020). Hair cortisol concentration mediates the association between parent and child psychopathology. *Psychoneuroendocrinology*, 114, 104613. <https://doi.org/10.1016/j.psyneuen.2020.104613>
Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian nursing research*, 6(4), 121-127.
Ursache, A., Merz, E. C., Melvin, S., Meyer, J., & Noble, K. G. (2017). Socioeconomic status, hair cortisol and internalizing symptoms in parents and children. *Psychoneuroendocrinology*, 78, 142-150. <https://doi.org/10.1016/j.psyneuen.2017.01.020>
Vézina, M. P. & Poulin, F. (2019) Investigating civic participation/developmental trajectories among Canadian youths transitioning into adulthood, *Applied Developmental Science*, 23:1, 59-73, DOI: 10.1080/10888691.2017.1301816
Vézina, M. P. & Poulin, F. (2020). Civic Participation Profiles and Predictors Among French-Canadian Youths Transitioning Into Adulthood: A Person-Centered Study. *Emerging Adulthood*, 2167696820970689.
Wright, K. D., Hickman, R., & Laudenslager, M. L. (2015). Hair Cortisol Analysis: A Promising Biomarker of HPA Activation in Older Adults. *The Gerontologist*, 55 Suppl 1(Suppl 1), S140-S145. <https://doi.org/10.1093/geront/gnu174>

REFERENCES