

Report on the outcomes of a Short-Term Scientific Mission¹

Action number: COST Action CA18211

Grantee name: Isabel Jaramillo

Details of the STSM

Title: Cross-cohort evidence on perinatal mental health and birth-related trauma

Start and end date: 03/07/2023 to 07/07/2023

Description of the work carried out during the STSM

Description of the activities carried out during the STSM. Any deviations from the initial working plan shall also be described in this section.

The STSM took place at the Vrije University in Amsterdam under the supervision of Prof. Carlo Schuengel and Prof. Mirjam Oosterman. After attending the Third Training School on Birth Trauma from a Lifespan Perspective, I realized that in order to optimize postnatal outcomes for parents and children in the short and long term, we need well-designed longitudinal research that allows meaningful conclusions to be drawn about the impact of peripartum events across the life span. Furthermore, replication of studies in different populations allows us to build confidence in the scientific value of the findings. Therefore, this STSM aimed to establish a basis for future multidisciplinary collaborations between team members of the longitudinal cohort studies Dresden Study on Parenting, Work, and Mental Health (DREAM) and the Longitudinal Study on the Development of Parenting and Mental Health (Generations²). In particular, the face-to-face exchange was necessary to identify overlapping constructs between datasets and develop new research questions that can be tested in both cohort studies, to map out an action plan for cross-cohort data analyses, and to extend scientific knowledge for future research projects.

During the STSM, I regularly met with Prof. Carlo Schuengel and Prof. Mirjam Oosterman to clarify questions regarding the study design and instruments of Generations² and exchanged ideas on conducting conceptual replication studies. I also had the opportunity to expand my horizon and take part in a journal club, where we discussed the current state of developmental attachment research, the importance of developing hypothesis relied in theory and mutual learning between researchers and practitioners. During my stay in Amsterdam, I benefited immensely from Prof. Schuengel's expertise on longitudinal studies, open science and learned from his considerate study conceptualization and insights on current statistical procedures and their limits regarding the replication crisis.

At the beginning of my STSM, I presented an overview of DREAM, its sample, sub-studies, constructs, and primary research questions in a research colloquium at Vrije University. Subsequently, I worked on a systematic overview of overlapping constructs with corresponding measures and measurement points

¹ This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

between the two studies. Based on this, I proposed five research questions, considering research gaps and checking whether the measures operationalized the same underlying construct.

In the middle of the week, I virtually met with the PIs of both studies (i.e. Prof. Oosterman, Prof. Schuengel, and Prof. Garthus-Niegel) to present the preliminary progress and discuss the potential of the proposed research ideas and the value of their scientific contribution. After rejecting some ideas, we clarified how the possible research questions could be tested. In particular, investigating the long-term effects of the subjective birth experience on maternal bonding and children's emotional problems (3–4 years after birth) was considered compelling. Therefore, following the meeting, I deepened my literature review on the impact of birth experience on child outcomes and proposed some testable hypotheses considering the theoretical background. At the end of the week, I met with Prof. Carlo Schuengel and discussed how to proceed with preregistration and analyses of our planned study as well as further steps of our joint work.

Description of the STSM main achievements and planned follow-up activities

Description and assessment of whether the STSM achieved its planned goals and expected outcomes, including specific contribution to Action objective and deliverables, or publications resulting from the STSM. Agreed plans for future follow-up collaborations shall also be described in this section.

The primary goal of this STSM was to develop relevant research to investigate the long-term consequences of traumatic birth experiences beyond infancy into childhood and adolescence.

By the end of the week, I managed to create an overview of all the constructs measured parallelly in both cohort studies, including the respective measures and when they were assessed. This overview is now available for all research members of DREAM and Generations² interested in conducting cross-cohort research on perinatal mental health. Therefore, this document constitutes the base for developing new research questions for future collaboration. The nature of our cohort longitudinal studies enables us to combine evidence from independent large samples in the Netherlands and Germany, and by conceptually replicating findings, we seek to triangulate conclusions about the predictive role of risk factors in birth-related trauma and its associated sequelae.

Secondly, I will investigate the longitudinal associations between subjective birth experience, mother-infant bonding, and child emotional problems. First, studies have shown that a more negative birth experience predicts poorer mother-infant bonding in the early postpartum period (Bell et al., 2018; Seefeld et al., 2022). However, it remains unclear whether poorer mother-infant bonding is, in turn, related to emotional problems in the child beyond two years postpartum. Therefore, in both longitudinal cohort datasets, I will research whether mother-infant bonding mediates the association between subjective birth experience and emotional problems in children. I started creating the preregistration for the upcoming study, and will meet online with the other co-authors to further collaborate on this exciting research project and publish our findings in a scientific journal (e.g., Archives of Women's Mental Health, Journal of Reproductive and Infant Psychology).

Thirdly, when researching the potential psychological consequences of perinatal trauma, we wish to take a family-centered approach, as trauma can be transmitted within the family system. In line with the aims of WG4, we plan to explore the role of epigenetics as a possible underlying mechanism in the intergenerational transmission of trauma. In the future, this will be possible by the combination of quantitative and epigenetic data that is being collected in our sub-studies.

References

Bell, A. F., Andersson, E., Goding, K., & Vonderheid, S. C. (2018). The birth experience and maternal caregiving attitudes and behavior: A systematic review. *Sexual & Reproductive Healthcare*, 16, 67–77. <https://doi.org/10.1016/j.srhc.2018.02.007>

Seefeld, L., Weise, V., Kopp, M., Knappe, S., & Garthus-Niegel, S. (2022). Birth Experience Mediates the Association Between Fear of Childbirth and Mother-Child-Bonding Up to 14 Months Postpartum: Findings From the Prospective Cohort Study DREAM. *Frontiers in Psychiatry*, 12, 776922. <https://doi.org/10.3389/fpsy.2021.776922>